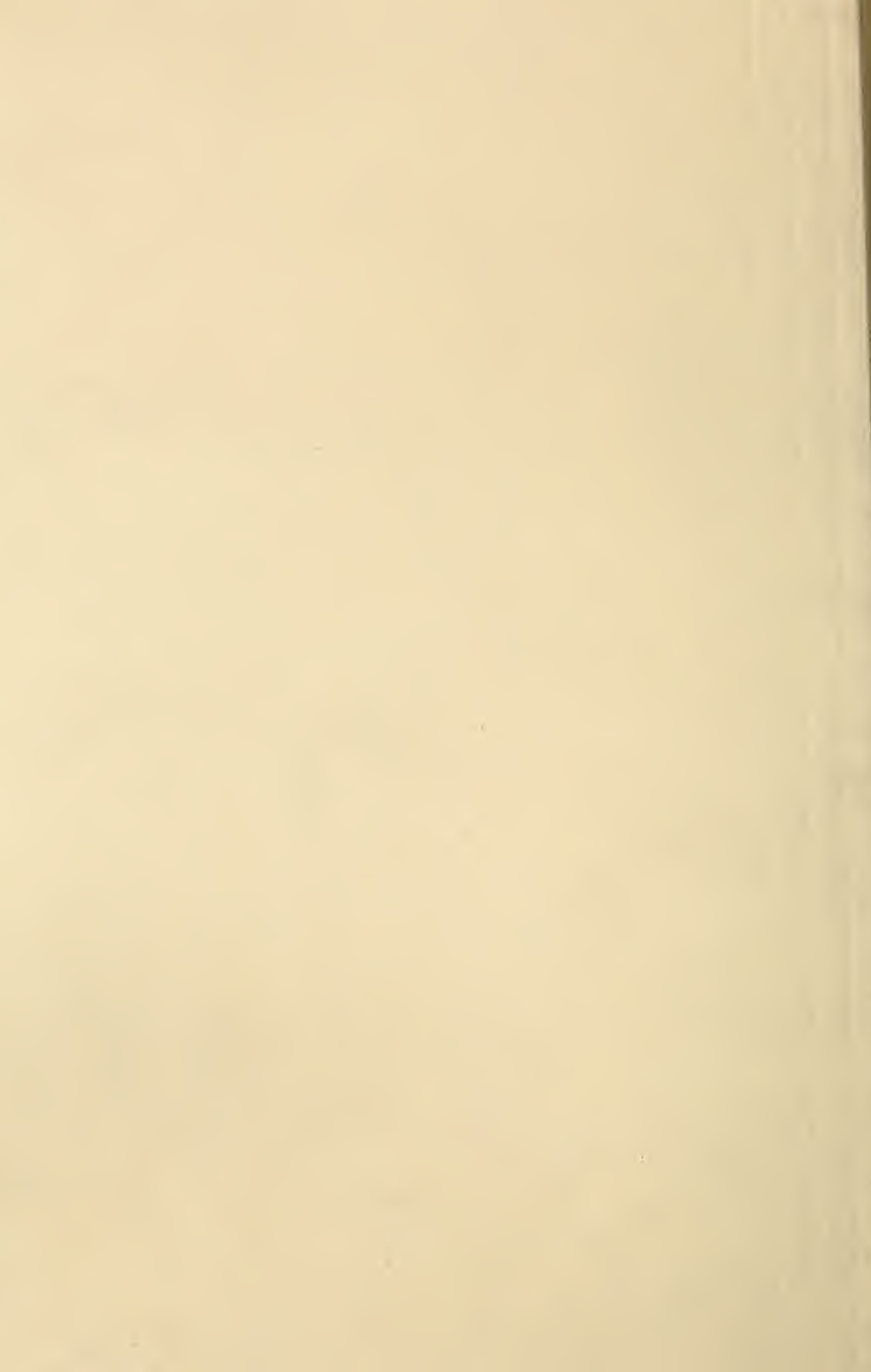


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Gleanings in Bee Culture

VOL. XXXVIII

DECEMBER 1, 1910

NO. 23

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Editorial

THE winter has been coming on much earlier in this locality than usual. The expected Indian summer did not materialize, or at least has not yet (Nov. 21).

DOUBLE-WALLED PACKED HIVES VS. SINGLE-WALLED HIVES IN PAPER WINTER CASES.

WHILE we have had fairly good results in wintering in paper winter cases it has been our opinion that colonies so protected have not fared quite so well as those in the double-walled packed hives. Possibly if more newspapers were folded around the hives and then the coarse heavy paper placed over the whole, and securely tacked on, or tied, the results might be the same. In localities where the absorbing plan seems to give better results the paper winter cases can not be used to very good advantage.

COLLIER'S WEEKLY AND THE SO-CALLED MANUFACTURED COMB HONEY.

IN *Collier's Weekly* for Nov. 5, page 22 of that excellent illustrated magazine, appears an article on the subject of Faking of Food. Along with a list of other foods said to be commonly adulterated or faked we note the following little paragraph:

"Synthetically flavored" glucose makes a fair imitation of maple syrup, but is not anywhere nearly the masterpiece that is turned out in honeyless honey in a beelless comb, so perfect that one involuntarily exclaims, "How doth the busy little manufacturer—!"

We suppose that most of what the writer, Louise Eberle, says, is possibly true; but she is certainly wrong in what she says about the "masterpiece" "of honeyless honey in a beelless comb."

That one little item, coming as it does from one of the most reliable weeklies in the world, will do a great deal of damage to thousands of honest bee-keepers scattered over all the country. Her statement shows the unmistakable ear marks of the old exploded canard of twenty years ago, to the effect that much of the comb honey on the market was artificial, the combs being made of paraffine and filled with glucose. This hoax was repeated so often, in spite of the protests of bee-keepers, that it even found its way into the encyclopedias and some of our standard text-books. Nearly all of

them have since corrected the misstatement. But an encyclopedia, if that is where she got her information, is by no means an authority. If she had asked some up-to-date bee-keeper she would not have made the blunder.

As is well-known, we have had a standing offer for over twenty years of \$1000 to any one who would show that manufactured comb honey could be made so perfect that it would deceive the average consumer. During all this time not one has seen fit to take up the challenge and claim the offer. The National Bee-keepers' Association, backed by several thousand dollars in its treasury, of which Mr. N. E. France, of Platteville, Wis., is General Manager, made a similar offer for a like amount some years ago; and if any more proof is needed we will increase our offer to \$10,000; in fact, we should be safe in making it \$100,000. If *Collier's Weekly* or Louise Eberle will take the pains to look up our financial standing they will discover whether we are able to make good our offer in case her charges are sustained.

Collier's Weekly is one of the leading magazines of the United States. The editor of GLEANINGS has been taking it for years, and expects to continue to do so because of its bold and fearless stand on great moral questions. Of course we shall write a protest to *Collier's*, but it will have a great deal more weight if something like 30,000 of our readers will do the same thing in a brief but courteous note; and we therefore request you, one and all, to fire in postal cards and letters, showing that such statement is not true. Unless this item is corrected it will do a great deal of damage to the bee industry at large. Be sure to make your letters brief and to the point, but, above all, courteous. Sit down and do it now. Address *Collier's Weekly*, New York City.

NO-DRIP CLEATS VS. CORRUGATED-PAPER BOTTOMS FOR SHIPPING-CASES; DO WE NEED A "FOOL-KILLER"?

DURING the last six months we have had exceptional opportunities for seeing many thousands of pounds of comb honey in various kinds of shipping-cases. We find that the honey coming in cases having corrugated paper goes through in very much better condition than that with no-drip cleats. The trouble with the cleats is, that they are often misplaced, allowing one end of the section to be up and the other down. In

this position the comb is very easily damaged, and, as a general thing, when the drip cleats are misplaced the honey will be broken down and leaking, spoiling the whole case. But the most serious objection to the drip cleats is that they are unyielding. The corrugated paper, on the other hand, allows the honey drip to pass away, and at the same time makes an excellent cushion for the sections.

Any honey-producer who has any honey to ship, and has nothing but cases with drip cleats, can well afford to rip the cleats out entirely and buy corrugated paper to put in the bottom of these cases. He will make money by doing it, and save wrangles with the consignees and the railroad companies.

While, last year, a single thickness of corrugated paper was used in the bottom of the cases, it sometimes happens that a case is placed upside down, or that some one with his big feet will step in the middle of the case, crushing or breaking the sections beneath the heel or ball of the foot. While it would be too expensive to make the shipping-cases strong enough for the average ignoramus to walk all over, it is advisable to make every case as near fool-proof as possible. Either we ought to use a sheet of corrugated paper on top of the sections as well as under them, or engage the services of some fool-killer to follow up every shipment of comb honey.

THE SAME OLD STORY; DO WE WANT TO COURT ADVANCED FREIGHT RATES ON HONEY?

We have lately had a few shipments of comb honey come in all broken "kern-smash," and all because the honey was put up improperly by the producer himself. It is the same old story, and we are compelled to repeat the warning again and again. It really seems a pity to ship out otherwise good honey and then have it ruined on arrival at destination because the producer tried to cobble up some home-made shipping-cases that he thought would enable him to save money. Such a policy is penny wise and pound foolish if ever one was.

What are we going to do with this smashed comb honey? Where it is not too badly broken we would advise putting it up in tumblers and selling it as chunk or bulk honey. Of course, one can not realize on it much better than extracted. But who pays for the difference between extracted and comb honey? The producer, as a general thing. In some cases he can make the railroad company pay the difference; but in most cases, especially in small shipments, the producer finds he has to pocket the loss himself, as the cost of a lawsuit would be more than he can actually gain if he won the suit.

If comb-honey producers are not more careful, either freight rates on comb honey will take a sharp advance or the railroad companies will refuse to take comb honey altogether. This is getting to be a really serious matter.

A JUST TRIBUTE TO ONE OF THE LEADING APICULTURAL LIGHTS OF SOUTH-WEST TEXAS.

We regret to record the death of Mr. D. M. Edwards, of Uvalde, Texas, that took place Sept. 14th last, at his home. For many years he was the leader in Southwest Texas in every thing pertaining to bee culture.

Our older readers will remember how the editor of this journal, in 1901, made him a visit; and so delighted were we with the whole bee-keeping proposition in Uvalde that we called it a "Bee-keeper's Paradise," for certainly it was at that time. Well do we remember that stock-raising and bee-keeping seemed to be the two principal lines of business. When we stopped over at the hotel the chief topic of conversation seemed to be bees and bee-keeping. We never were in a locality before or since where apiculture seemed to be so large a part of a community's life and thought. Conditions since that time have changed considerably, for fruit-growing and stock-raising have jumped apace with enormous strides. It is probable, to-day, that these other industries are more important now than bee-keeping.

We shall long remember the many courtesies extended by our friend when we visited him: He was a man who stood well in his community; and as a bee-keeper he had few equals. He made money with his bees, and was generally regarded as an all-around prosperous man. What was more, he was willing to give every assistance to possible and even probable rival bee-keepers who came to him to learn the business, some of whom subsequently, as we happen to know, squatted their apiaries within bee-range of his yards. He was broad-minded to a fault; and when those other fellows crowded on to his territory he remarked with a smile, "This is a free country, and I have no right to say that the other fellow shall not occupy my bee-range if he desires to." Yes, Mr. Edwards would spend half a day instructing some beginner how to handle bees. He would tell him what supplies he ought to have, then finally send him on his way rejoicing.

In a clipping taken from a local paper it is said of him, "As a citizen he took an active interest in the welfare of the city; and he was an honest, conscientious, and upright gentleman; as a neighbor he was always courteous and friendly. . . . His word was his bond, and honesty was his watchword." We have had many years pleasant dealings with Mr. Edwards, and we can certify to the truthfulness of the statements of his fellow-townsmen.

CARRYING BEES INTO THE CELLAR; STEALING A MARCH ON MR. HOLTERMANN.

In this issue we call special attention to Mr. Holtermann's plan for carrying bees into the cellar—a plan which we believe to be the best and simplest for doing it—

easier on the operator, and not likely to disturb the bees.

By the way, we have a good joke on our correspondent. A short time ago we wrote him, asking for a photograph, saying we should like to show his picture in GLEANINGS. He wrote back, saying that he was a modest man, and would prefer not to have his picture in the journal. But he had forgotten the fact that we had already secured a number of good pictures of him, in one of which he is seen to be hugging one of his twelve-frame hives. He *might* be caught in a worse position.

Joking aside, a man always looks more natural when he is engaged in some useful work, or assumes a familiar pose; so we believe after all we have shown up our six-foot friend much more true to life than would be seen in an ordinary portrait photograph.

Mr. Holtermann has come to be one of the most extensive and successful bee-keepers in the United States or Canada. We would not dare to tell the enormous crops of honey he has secured. He is emphatically a bee-man who not only practices what he preaches, but who, in the common parlance of the day, "gets there." We anticipate that hereafter our readers will pay more particular heed to some of his tricks of the trade, and hence we place this one before the public; for it should be clearly understood that he is a man who makes a study of how to make short cuts.

While we believe that bee-keepers as a class are intelligent and progressive, there are many who depend too much on their hands—that is, simply brute force, and not enough on the gray matter in the upper region of their anatomy. Our Canadian correspondent works with his head and hands.

CHARACTERISTICS OF THE RACES.

BEFORE coming to Medina our Mr. Bain had considerable experience with some of the different races of bees, including Carniolans, Banats, Cyprians, Caucasians, Holy Lands, etc. Contrary to the opinion of many, he regards the Carniolans very highly. He says that they protect their hives just as well as the Italians, and, what is of interest especially to the comb-honey producer, they cap their honey snowy white. The common belief in regard to Carniolans is that they swarm excessively, and most bee-keepers feel that the swarming problem is enough of a proposition when Italians are kept, and that, if it were any worse, comb-honey production would be well nigh impossible. Mr. Bain points out, however, that Carniolans can not be handled like Italians. They require a larger hive on account of the prolificness of the queens, the twelve-frame not being too large. If these bees are put into eight-frame hives and managed according to methods laid down for Italians, excessive swarming is the result every time.

One serious fault of the Carniolans that has to do especially with the queen-breeder

and also with the honey-producer is this: There is less difference in the color of a Carniolan queen and the workers than that of the Italian queen and workers; and this fact, together with the tendency of Carniolan bees to remain still on the combs (very often a queen remaining under other bees), makes it a hard proposition to find her. Carniolans are not nervous-acting bees, and yet they seem to protect their hives as vigorously as the best Italians. This very fact, however, makes the finding of the queen more difficult, for the queen herself is likely to remain hidden, scarcely moving at all when a comb is taken out.

Banats have many of the good qualities of the Carniolans, and they cap the honey especially white. However, they more nearly resemble the black bees in appearance, and it would be difficult to keep the blacks and Banats separate.

Mr. Bain finds hardly one redeeming feature among the Caucasians, although they do cap honey white. In spite of the claims made as to the gentleness of these bees, they are nervous in their actions, and a good many of the colonies of this race are very difficult to handle on account of their tendency to sting on the slightest provocation. These bees are excessive propolizers, and no better honey-gatherers than average Italians. One point that we do not remember having seen mentioned is this: It is much more difficult to introduce a new queen to a colony of Caucasians than to Italians, for instance. They will start cells in spite of all that can be done, and about the only way is to remove all brood or else wait until the brood is so far along that cell-starting is out of the question.

With Cyprian bees, Mr. Bain's experience has been similar to that of practically all bee-keepers who have tried these bees. They have lots of vim and energy, but they use it in a bad way, for they are more vicious by far than any other bees that he has ever had any thing to do with. The boldest and most hardened veteran in the bee-keeping ranks is usually glad to get rid of such bees as soon as possible, for this one feature counteracts all the good characteristics that they might have. It is possible that the bees coming from southern Italy contain a little of the Cyprian blood, for they are generally very cross or much harder to handle than the leather-colored bees coming from further north. Cyprians are well marked, the bands or stripes being very distinct.

Golden Italians are, as a rule, more irritable than the leather-colored, but they cap their honey whiter. If careful methods of breeding were followed it would seem as though golden Italians might be reared especially for comb-honey production, perhaps, that would be hardy and also gentle. We believe that many breeders of golden bees pay more attention to color than to any thing else; but perhaps these breeders can not be blamed, since there is quite a demand for the golden color.

Stray Straws

By DR. C. C. MILLER, Marengo, Ill.

THAT LAST Straw, page 715, fourth line, says exactly the opposite of what I mean. Just cut out that "do not."

D. M. MACDONALD says, page 618, "My preference would be 9 frames." I suppose he uses the British standard frame, $14 \times 8\frac{1}{2}$. Nine of them are equivalent to six $\frac{2}{3}$ Langstroth.

MR. EDITOR, I don't think you've given the right answer to the question, "Why are you optimistic?" p. 677. It's because you are a born bee-keeper. A born bee-keeper is always optimistic, honey-dew or no honey-dew.

R. F. HOLTERMANN, I agree with you, p. 715, that burr-combs are bad about pinching bees; but you have got to show me that a bee thus pinched is angry upon being released. I never knew one to fly at me, or show signs of anger.

QUEENS STOP laying earlier than the beginner supposes; but doesn't brood-rearing generally stop before the queen quits. I suspect it from finding eggs and sealed brood in the hive, but no unsealed brood. [You are probably right.—ED.]

O. B. METCALFE, p. 691, is correct in saying that the wings have a slight vibration when a queen pipes. But that does not prove that the wing makes the sound. Cheshire says, Vol. II., p. 157, that it is certain that the wings do not make the piping sound, "since queens clipped so vigorously that not a vestige of wing remains can be as noisy as others."

YOUNG FELLOW, paste in your hat what G. M. Doolittle says, last of p. 616. With *abundance* of honey in the hive in spring, my bees have all the brood they can cover; and what possible good can be done by stimulative feeding or spreading brood, unless I were in a region where there is a considerable period of absolute dearth between the earliest flow and the next flow?

F. R. BUCHANAN, that cushion may be a good thing in spring after bees are outdoors; but is it any advantage in cellar? My bees have only the board cover over them, and they could hardly winter better. And don't you believe my two-inch space under bottom-bars serves as good a purpose as to take up room in the cellar with the extracting-super you mention, p. 668?

FORMERLY I supposed European foul brood was five times as bad as American. After some personal acquaintance with European and a good deal of reading about American, I now think I'd rather have European, twice over. Possibly personal acquaintance with American would change my views, but I doubt it. [Like our friend

Dr. Miller, we formerly held the opinion that European foul brood was far harder to control than American; but late developments would seem to indicate that the European type can be easily handled by an up-to-date bee-keeper. We know that the American type of the disease is a hard proposition to handle, even by the expert.—ED.]

RALEIGH THOMPSON says, p. 736, that man will never produce a non-swarming race of bees. Better not be too sure what man will or will not do. A few years ago some people said man would never fly, and now he is sailing in all directions. Only 5 per cent of Dadant's bees swarm. Either $\frac{1}{10}$ of his bees are non-swarmers or else he has traveled $\frac{1}{10}$ of the way toward a non-swarming bee. [We share the feeling of Mr. Raleigh Thompson, that man will never produce a non-swarming race of bees. Even if he can produce a strain that will show but little disposition to swarm, the probabilities are that that strain, after a time, will revert back to the original normal type. The difficulty of producing bees with certain characteristics is owing to our inability to control the male parentage. Nature has set up an almost impassable barrier by which it seems almost impossible to change the original type to any great extent. A few years ago we ran across a "sport" in the form of a queen that produced bees that showed a tongue reach very much in excess of that of ordinary bees. It is a well-known fact that some bees can reach further into the blossoms than others, although some authorities dispute it. Prof. Gillette, of the Colorado Experiment Station, found that there is considerable variation. Well, now, with our original strain of long tongues we found there was a strong tendency in subsequent generations to revert back to the original or normal type, and *that* in spite of all we could do. We are in hopes some day of running across another "sport," because with that sport we may be able to demonstrate to the satisfaction of some of the best bee-keepers in the country that these bees do have some particular merits. The Daddants have never claimed to have a non-swarming race of bees—or at least we have never seen a statement from them to that effect. They have repeatedly said, however, that their control of swarming was due to their large Quinby hive and their methods of management. For many years the Daddants have had very little swarming; and during all of this period they have had a great many different strains. They simply take the normal type of bees and place around them certain conditions by which there is but little disposition to swarm. We are sorry we can not agree with you, doctor; but it seems to us that Raleigh Thompson came very near hitting the nail square on the head. In saying this we do not mean to imply that there is not a difference in races, for there surely is. Carniolans will swarm more than Italians.—ED.]

Bee-keeping in Southern California

BY MRS. H. G. ACKLIN, GLENDORA, CAL.

Do not forget to attend the State convention, which will be held in Chamber of Commerce, Los Angeles, the latter part of this month.



The "bee-man" of a village recently visited informed me that at least ten swarms of bees were ensconced in the two churches. The ministers of those congregations must have been very entertaining to counteract the drowsy effect of the hum of all those bees, coupled with the hot Sundays of last summer.



I must be getting dull, for I wondered for the space of a minute recently why the frames struck the bottom-board, before I discovered there were no rabbits on the hive; also why the frames caught when trying to take them from the hive, when I found they were spaced with one-inch single nails.



I discovered a new method of wiring frames the other day while examining some bees near San Dimas. A wire, somewhat heavier than hay-baling wire, was wrapped around one end-bar two or three inches from the top, then taken across the frame and wound around the other end-bar. Both ends of the wire projected out an inch or so.



An eight-frame-hive bee-keeper inadvertently gave the ten-frame hive a big boost when he gave, as one reason why he left supers on, was to have a place to put combs of honey in spring, so empty combs could be put in their places for queens to lay in. He said his queens were generally crowded out of the brood-chamber. Still this brother throws down the gauntlet to any ten-frame man to beat him in the output of honey.



Last summer some friends requested me to help them get started in queen-rearing, so I told them to take queens away from two strong colonies on Wednesday and I would be there on the next Saturday. At the appointed time we all went to work, and in the course of a couple of hours they understood the Doolittle method so well that they requeened their apiary of 200 colonies in the next two months, and now have a splendid lot of vigorous young queens. They bought a queen to breed from, but even that item of expense is not necessary if one has some good queens in his own yard. More attention to queens would give larger honey crops, the same as

fertilizing an orchard causes greater yields of fruits.



I wonder how many bee-keepers know that adulteration of honey is going on right in our midst. Do not rest easy and say that is always the case, and it can not be stopped, for that nefarious practice can and must be stopped. It has been stopped in other States when bee-keepers became determined enough about the matter, and the same result can be accomplished here. Uncle Sam stands behind us now in regard to pure food; and if bee-keepers will work together these swindlers can be put out of business. No matter whether it be the small grocer who puts just a little glucose in the honey to keep it liquid, or the wholesale man who mixes tons, the effect is the same. People soon take a dislike to glucosed honey, and stop eating our honey altogether. So bee-keepers lose money on two counts—less honey being consumed while the output is increased.

How can this adulteration be stopped? There are many ways in which bee-keepers can assist the pure-food officials in running down this fraud. The best way to begin is to get intensely interested and enthusiastic over the matter and be aggressive. Let every bee-keeper constitute himself a committee of one to be on the lookout; and when suspicions are aroused in any quarter, buy some of the honey and have it analyzed; and if it proves to be spurious, follow the trail right up till the guilty parties are arrested. Our State Association should appoint a live committee to help the rank and file of bee-keepers in this matter. The committee is not to do all the work, by any means, as this is every bee-keepers business; but all should be continually on the lookout, receive reports and suggestions from bee-keepers during the year, and bring in a written report of the situation at the next meeting. In my old home State a few bee-keepers in and around the twin cities made things so warm for the adulterators that in two or three years they were all forced out of business; and we had only our State law behind us at that time. But one of the twin cities, St. Paul, is the capital city, which, of course, simplified matters for us, as the State chemist was our friend, and would cheerfully analyze all honey taken to him. I am not familiar with our California law on adulteration of honey; but if it is not all it should be there is more work for the State association to do in getting a proper representation before the legislature in time to plead our cause. All bee-keepers' associations in our State, whether county clubs, district unions, or State organizations, should unite under one banner in fighting this evil, and send a large and enthusiastic delegation, composed of delegates from each society, to the legislature this winter to represent the bee-keeping industry of our State. I feel sure the Los Angeles Co. Club will assist this good work in every way possible.

Bee-keeping Among The Rockies

By WESLEY FOSTER, Boulder, Colo.

Comb honey, even though firmly attached to the wood on all four sides, will break out considerably in shipment unless the cells next the wood are all filled with honey. It is not necessary that the cells be sealed, which would, however, give added strength; but it *is* important that sections shipped in cold weather should have honey in the outside cells. I have had a good many combs break out that were attached to all four sides, some of it when being shipped less than fifty miles, and packed in carriers with straw beneath and all around. Comb honey certainly breaks out easily in cold weather, or the freight-handlers drop the crates very heavily. Both conditions are doubtless true.



WARNING TO FREIGHT-HANDLERS.

I have just barely noticed the small stamped words on the top of cases of comb and extracted honey, "Fragile, handle with care—this side up." Now, these words should be printed on papers about six by eight inches, with a red border, and in red ink; then when these are pasted on the top of a case of comb or extracted honey the freight-handlers will see it any way, and will be more apt to think they are handling glass-ware, nitro-glycerine, giant powder, or some such article that has to be carefully dealt with. Honey in 60-lb. cans should have the cases bound with strap iron if the honey is liquid. This will prevent the mashing of the case and consequent bursting of the can. A cleat on the ends of the 60-lb. can-cases gives a much better hold than the sawed-in hand-hole. The case is not so liable to be dropped because of the fingers losing their grip on the case.



AMOUNT OF HONEY SOLD IN BOULDER.

One grocer in Boulder in the past two months has sold one case of comb honey and one dozen pint jars of extracted; this is the lowest record for Boulder that I know of. The largest sale in the same time was about fifteen cases of comb and 400 pounds of extracted put up in pint, quart, and two-quart Mason jars. Boulder has about 25 stores, and these have used between 150 and 200 cases of comb honey, and perhaps a ton of extracted. This is between six and seven thousand pounds of honey for a city of twelve thousand people in two months—half a pound for each person in two months. This seems low, but I doubt whether there are many cities the size of Boulder, or any size for that matter, that can show such a record, especially when comb honey retails from 17½ to 25 cts. per section, and pint jars of extracted bring 25 to 30 cts. each.

When we have a good crop, and the quality is fine, the stores have handled two and three times this amount in the same time. At such times comb honey sells for 12½ to 15 cts. retail.



BEE-KEEPING AND HOMESTEADING.

Several bee-keepers in the East and middle-western States have written me asking if homestead land might be secured in localities where bees could be profitably kept. Their idea was to have the bees make honey and pay expenses while they were getting the new land in a crop-bearing condition. There are several ways of securing government land. It may be had under the desert-land act, which does not require residence upon the land, but requires \$1.25 per acre of improvement each year: 320 acres may be taken under this act, and the final proof may be made and a deed secured as soon as water is placed on the land for irrigation. Twenty per cent of the land must be irrigated before the final proof may be made. There is considerable of this land still to be had, but the chances for getting water on it are rather slim in many of the districts where there is land still untaken. On all such land, even where water is put on soon after filing, several years will pass before sufficient alfalfa is in bloom to furnish the bees any forage. However, one might hold this desert land and live in the older-settled irrigated districts ten, fifteen, or twenty miles distant from the desert claim.

One could doubtless get homestead land within ten or fifteen miles of good bee locations, and live on the homestead and drive that distance to care for the bees. But I would not encourage any one to look for a homestead where bees could not be kept from the start. The land to be taken under the homestead and desert-claim acts is worth taking up, I feel sure, for land is rising in value, and the progress of irrigation is rapid. Furthermore, dry farming is making rapid strides; it makes one wonder why any one irrigates at all to see some of the dry-farm crops exhibited at the fairs.

I would never discourage any one from coming into any of the Western States and getting land; but good judgment is needed here as well as in any place, as we have our full quota of worthless tracts, and sharks who are willing to sell them at a fancy price.

The State maintains an immigration bureau that will gladly furnish reliable information on any part of Colorado. If any one intends to move or is interested in the West he should write to the Colorado Immigration Bureau, State Capitol, Denver, Colorado.

Will salt air affect the bees? There are no bees on this island (Martha's Vineyard). I do not know why. The island has 30,000 acres,
North Tisbury, Mass. F. B. FENNER.

[It has never been observed that salt air, so called, in the vicinity of salt water, has had any deleterious effect upon bees. We know of no reason why it should.—ED.]

Notes from Canada

By R. F. HOLTERMANN

THE RENEWAL OF COMBS.

In the *Leipziger Bienen-Zeitung* for November, 1910, J. M. Roth, under the heading "In the Light of Practice and Experience," condemns a recommendation by Dr. Zander, that combs should be replaced in the brood-chamber every two years. Dr. Zander's object in part is to prevent the spread of foul brood and other diseases of bees. There is no doubt that changing all the combs in the brood-chambers every two years, and rendering the old ones into wax, would be a pretty effectual way of preventing foul brood from getting much of a foothold in a district. However, I am afraid this practice would just as effectually bar profits in bee-keeping. Just think of melting up 100, 1000, or 5000 combs because of the possibility of foul brood!

THE ORIGINATOR OF THE FLOUR PLAN FOR INTRODUCING QUEENS.

On page 548, Sept. 1, I alluded to Mr. Jos. Gray as a British bee-keeper who originated the flour plan of introducing queens. Mr. D. M. MacDonald, in the *British Bee Journal*, takes exception to this statement of mine, and, referring to Mr. Gray, says, "If he did, I never heard of it until now, and I most decidedly place the discovery of the successful application of flour as a bee-quieter to the credit of a Scotchman—not the writer." All I can say is that Mr. Gray noticed my reference to him and made no objection to it. Mr. MacDonald, however, appears to know what he is talking about, and in the future I will make no effort to give any one the credit of being an originator for fear of making mistakes.

CARNIOLAN BEES.

Mr. Ralph Benton, in the November issue of the *Bee-keepers' Review*, has the following to say in regard to Carniolans: "It was with interest that we learned of a colony of Carniolans, of the best stock obtainable in this country, that withstood the black brood when Italians on every hand were infected and reinfected; and, more than this, the colony in question supplied to weak colonies about it some twenty frames of brood during the spring months. It must not be construed that we base our estimate on the resistance of Carniolans entirely upon this single colony. . . . Our real estimate of Carniolan bees has been arrived at through experiments with a large number of queens sent to the infected region; and, as we have said, they take their place beside the Italians as resistant stock, and one more good trait is to be identified with this irresistible and excellent variety of bees for the commercial bee-keeper." I think it is well that Mr. Benton mentioned "commercial bee-

keeper," for I doubt if it is wise for one who does not pay very close attention to bees to bother with Carniolans. It is also unwise for any one who has not mastered the prevention of swarming to keep Carniolans; but for any one who knows how to control the swarming impulse, which is very strong in these bees, I know of no strain which is their equal.

ARE CARNIOLANS BLACK?

Mr. D. M. MacDonald, referring to me, says, "By the way, I looked on this Canuck as a very accurate writer on bees until lately, when, in reasoning against my claims for blacks, he grouped Carniolans with this variety." I suppose it is wrong to call a cow black if she has a white foot, or a house a red brick house when in its construction wood, mortar, nails, glass, etc., are used. In the same sense, Italians are not yellow nor Carniolans black, for these latter are black bees with silver or yellow bands. If we get down to fine points, is there such a thing as a black bee at all?

I believe we are far too careless about the use of language, and, although I am considered too particular when I hold writers to the words they use, I shall not try to discourage the few like Mr. MacDonald, who believe that a language should "state what it states."

MAL-NUTRITION VS. LACK OF ELIMINATION.

Our friend W. Z. Hutchinson, after spending some time in a hospital, has discovered that his trouble was not what he wrote me months ago, lack of elimination, but mal-nutrition. Editor Root and I could have told him this long ago, for we both knew, after being taught by Dr. J. M. Lewis, Rose Building, Cleveland, O., that, if the body is properly nourished, the elimination will soon take care of itself, and that a great many troubles, as catarrh, indigestion, nervous troubles, etc., exist because the body is not properly nourished and built up. In the majority of systems of treatment an effort is made to overcome the effect rather than to remove the cause, and fresh attacks of the old troubles are only hanging over the patients' heads, to fall at any moment. Dr. Lewis strikes at the cause, and the effect disappears like magic.

I wish that Dr. Lewis might make observations on the effect of bee-stings as a cure for rheumatism. With his method of making a diagnosis the effect could be very closely followed. Could not Dr. Lewis be induced to make a scientific investigation along this line? Rheumatism may manifest itself in some particular part of the body after being in a latent condition in the blood for a long time. Certain local treatment may bring into activity the organization for eliminating the impurities in that part of the body, and yet that remedy may have no effect upon the system generally. Then the disease, unless something else effects a cure, may manifest itself elsewhere when conditions for such are favorable.

Conversations with Doolittle

At Borodino

SHOULD A BEE-KEEPER HELP HIS NEIGHBORS TO START WITH BEES?

Do I have exclusive right to the locality that my bees cover? My conclusions are that anybody who would encroach on ground already fully occupied by myself is not quite what a good man should be.

I would agree with you provided the occupant is one who is about to change his location in search of a better one, and therefore comes and settles down near you; but it more often happens than otherwise (at least such has been my experience) that the one who may injure you the most is the man who is already an owner of a large area of farming land, and who, after reading the bright side of bee-keeping, as given in our books and papers, or who, on account of poor health, or because of *your* reported success, concludes he will try his hand at the business. Such a man does not wish to leave his present location to start an apiary, and he could not well do so, even if he chose. He reasons that his broad acres of pasture, woodland, etc., produce many pounds of nectar, and that this is his by reason of the cash he paid for the farm; so he starts out with the desire, perhaps, of keeping only a few colonies for his amusement and for the honey that he might get for home use. His first year may be a good one, and he gets in love with the pursuit, when the question of your priority and his extension of the business is now forced upon him. He feels that, since he owns a large farm, there is no reason why he should not keep all the bees he desires, and that, if you think you can crowd him from his own fields by keeping more colonies, he will put in ten colonies to your one.

Such a man would probably be going to extremes; but could you give any good reason why your bees should have a right to forage on his clover or on his basswood that was growing on land that his money had purchased long before you ever thought of keeping bees? All this is not an imaginary case, as I can show you by a bit of personal history.

I was born and brought up within twenty rods of where I know sit. Father kept bees when I was a small boy, having as many as sixty colonies at one time; but these all died of American foul brood before I was fifteen years old. When I became of age there were about 250 colonies within a radius of three miles of us that were kept by five or six different parties, one man in particular having 120 colonies about a mile away. After reading a book which fell into my hands I became interested, and father and I talked the matter over, with the result that we purchased four colonies some time in the spring when I was twenty-two years of age. The following fall he gave me

his part of the bees, and I started out alone in the business. After I had increased to 30 colonies the man who had 120 colonies a mile away came to me one day, saying that I was injuring his business, and that as he had a large apiary before I started, he had a priority right, and I ought to quit and leave him the whole field. I told him at once that father had kept quite an apiary of bees long before he ever thought of keeping any, and that I expected to continue the business as long as it was profitable. Furthermore, that we had a farm, while he owned only a house and a half-acre lot, and I said I did not see why my bees did not have a good right to visit the clover and basswood on our own farm. He considered me in the wrong, but I felt justified. Well, right or wrong, I lived to see the time when not one of the owners of the 250 colonies that I mentioned kept bees any longer, and so I had the whole territory to myself.

Soon after this a colony of bees was given to a neighbor farmer, whose land adjoined ours. As we were the best of friends, he often came to see me, and, of course, we talked bees. The next spring he told me that his colony was doing nothing, and I saved it for him by giving him a frame of hatching brood, after finding that it was all right except being weak in bees. From this one colony he increased after a while to over forty, and he often said that he would have had no bees if it had not been for me.

Two other neighbors started in soon after this, and I often went with them to see their bees, and all three came and visited me. I was glad to have them succeed, as they all owned large farms. I well knew that, if I told them I had a priority right, they would be the worst rivals I could possibly have; and I was doing only as I would be done by if I had been the one just starting. After my sixty-odd years of life this has proved a good rule to be governed by.

As I said at first, if some stranger were to move from 50 to 200 colonies into my immediate vicinity when there was plenty of unoccupied territory elsewhere, I should hardly consider him a good man, as you expressed it; but with friendly neighbors who wish to start with bees the case seems different. I believe in letting live as well as living; and if my neighbor desires to start in bee-keeping there is no law, moral or legal, to hinder him from so doing; and after he has once started, I believe he will cause me much less trouble if I treat him in a neighborly way than if I were to show him that I thought he had no right to keep bees.

[Our correspondent has answered this much-discussed question very fairly. The legal aspect of cases like this have never come up, and probably never will, because bee-keepers are not agreed as to what even the moral rights are. In cases of old neighbors who have for years owned land from which the nectar is gathered there can not be any be any question that the new bee-keeper has as good a right there as the old. ED.]

General Correspondence

EUROPEAN FOUL BROOD.

Some Characteristics of the Disease; is it Possible to Cure by Six Days of Queenlessness?

BY DR. C. C. MILLER.

In the course of last summer I gradually fell into a theory as to the workings of European foul brood, which I here give for what it is worth. The disease is conveyed by means of bacilli—only in rare cases by means of spores. When a larva becomes infected, it dies when three or four days old. It may die younger, and in some cases it does not die till after it is sealed. As soon as a larva dies, the bees may start to remove it, or it may be left until it dries down into a scale. If they begin to remove it as soon as it dies, the juices of the dead larva are so little affected by the disease that they are still pleasant to the taste of the nurse bee; she licks them up, just as starving bees suck up the juices of unsealed larvæ, and when she feeds the next larva it gets a dose of the bacilli and is doomed. If a larva that has died from the disease is not torn open very soon after death, it then becomes offensive, and its juices will not be licked up. It will dry up into a scale, and will then be carried out, but there will be no continuance of the disease from that scale, for the bee that carries it out does not eat any of it, and so can not feed any of it to a larva. If a larva is sealed before it dies, no disease will come from it; the dried-up larva will merely be carried out later on. The rule is that the disease is continued only from unsealed larvæ that have lately died, perhaps within 24 hours of their death. There may be exceptions. Occasionally a spore may get into the food of a larva; but bees don't make a practice of going about hunting up filth to feed to their babies. At the table of the neatest cooks in the world you may occasionally get a hair in your mouth; but neat cooks do not make a practice of serving up hairs by way of dessert.

There's the theory. Please remember that it's *only* theory. I don't *know* that it's true; but facts as I have observed them fit in well with the theory.

Let us see how the theory works out. We will remove the queen of a diseased colony, say June 1. All the brood will be sealed by June 9 or 10, and at or after that date there will be no diseased larvæ with juices that a nurse-bee would relish. So no larva will receive infected food if it is hatched from the egg as late as June 10, and the disease will cease to be. But if a larva hatches from the egg June 10, that egg must be laid June 7. So if the queen is removed June 1, and the same or another queen given June 7, a

cure will be effected. In other words, six days without any laying makes a cure.

When I reached that point I said, "If that theory is true, all that is needed is to cage the queen for six days, and the colony will be healed. Let's try it." It was then well on in August, and I had only two diseased colonies on which to experiment. One of them was No. 105, which had a queen of the previous year. I caged the queen Aug. 24, and freed her Aug 30. Eight days later only clean brood was to be found in the hive. No. 67 had been a diseased nucleus, to which, by way of experiment, I gave a virgin which I found laying July 19. It continued diseased, in accordance with Mr. Alexander's insistence that a colony must be strong in order to be cured. Aug. 23 it had some brood in each of three frames, and I was in pretty bad case. I gave it five frames of brood with adhering bees, and caged its queen. Aug. 29 I let the queen out of the cage, and ten days later I found the brood all clean.

Please understand that I don't recommend caging a queen six days as a cure. I did that only as an experiment, and would much rather have a vigorous young queen, for a queen that has lived for some time in a foul-broody colony generally has a logy appearance, and is not so good as she ought to be. She may not be diseased, and I do not believe she would give the disease to another colony; but she is the worse for her experience, and is no longer up to the mark. I have, however, great faith that a cure may be expected if the old queen is killed, and six days later the colony receives a laying queen that is young and vigorous. In the two cases I have mentioned, the six days of queenlessness proved sufficient to effect a cure in spite of the retention of the old queens.

If six days' queenlessness cures, then there ought to be no trouble about curing by killing the old queen and giving a cell or a virgin at the same time. It is possible that five days of queenlessness might answer, and I believe a good many cures would occur from three days of queenlessness. Even a single day without eggs ought to be some help, for we know that a little of the disease will be cleaned up by a strong colony without any queenlessness.

It is not hard to believe Mr. Green when he says that a large percentage of cures occur from merely changing queens, for there is always some break in brood-rearing upon the introduction of a new queen.

I think I hear some one say: "But if your theory be correct, then no case should last over winter, for surely brood-rearing stops more than six days in winter." Well, are you sure that no mild cases are cured in winter? And doesn't every case have a big setback? If every case started in full blast in the spring, just as it was the previous year, would there be enough healthy brood left to continue the colony throughout the season? And with millions of spores left in the hive, is it at all strange that some of

them should get into the babies' pap? But I confess my answer does not seem entirely convincing, and I don't blame you if you want to be shown a little more before accepting it.

Well, anyhow there are those two cases cured by six days of queenlessness. If you have any European foul brood to fool with next summer, try the plan of killing the queen and introducing a vigorous young queen in time to have her begin laying six days later.

In some respects it would be much better if I had waited two or three years to give thorough trial; but it will be much better to have others help. If we can save all our combs, at no greater cost than the loss of six days of egg-laying, don't you think the thing well worth trying?

Marengo, Ill.

[We should be pleased to hear from others who have had experience with European foul brood. In the first place, is Dr. Miller correct in saying that the scales and sealed cells containing dead larvæ do not transmit the disease, and that infection comes from larvæ not more than four days old? These are interesting facts if true.

Again, is Dr. Miller correct in surmising that six days of queenlessness will effect a cure? While our correspondent doesn't pretend to say as yet that he has a new cure, he simply desires to know whether he is on the right lead. Tell us, friends, what you know. Surely there must be many in New York who do know.—ED.]

PAINTING HIVES IN CALIFORNIA.

Zinc Needed to Make the Mixture Durable.

BY E. M. GIBSON.

Before coming to this coast, I, too, could have endorsed Dr. A. F. Bonny's article in reference to paint, as you did in your editorial, page 576, Sept. 15; but if you should tell an old-time painter who is acquainted with conditions here that white lead alone is best for this climate he would "jest laff." If in this locality you should paint a hive and let it stand out eighteen months, and had occasion to handle it at the expiration of that time, your hands and clothing would look as though your hive had been white-washed.

I was fortunate to get acquainted with a good painter soon after coming to California, and before I commenced to paint my hives. He cited instances where new comers would have nothing but white lead (notwithstanding his advice to the contrary), and he mentioned others who used the lead-zinc mixture. The buildings having been painted with white lead had to be painted again the second year, while those painted with lead and zinc looked well at the end of six years. I was surprised, for I had been led to believe that there was nothing better for all climates than white lead. We use a

mixture of 60 per cent zinc, 40 of lead, and the best linseed oil. If this mixture is applied as it should be it will not crack or scale, and can be painted over and give as good results as if only lead were used. If a thick coat is required it should be applied at different times, and be well rubbed down.

Let me tell you how well paint should be rubbed down. Apply the paint so sparingly, and rub so thoroughly, that, when any portion of the hive is finished, your brush is so dry that you can rub it over your clothes and it will not soil them. But I would not advise any one to try this test on his best suit. The one we usually paint in will do to experiment on. Do not take this too seriously; but I want to say something to impress on the minds of the readers of this the importance of thoroughly rubbing the paint into the wood.

I have painted hives within the last week that have been in use for fourteen years, and have had several coats of the same mixture I have described, and no one could tell by looking at the outside that they were more than a week old, and I do not sandpaper them, for they do not need it. I use a small brush to apply the paint to nail-holes, dents, and rough places. If the large brush is used, one is likely to get on too much paint; and if too much is applied and not rubbed off it will look worse in two or three months than it would if it had not been painted at all.

TOO LARGE AN ENTRANCE IN SOME LOCALITIES CHILLS BROOD.

Dr. Miller, that New Mexico chap's head does not need fixing. His "noter" is all right—Stray Straws, p. 404. The subject of ventilation is one wherein the word "location" will consistently apply. Several years ago I put wedge-shaped pieces between the hive and bottom-board, making the entrance one inch wide. The brood of the small colonies chilled. Those that were large enough to protect their brood did so; but the queen did not lay eggs within several inches of that wide entrance. I was not long in getting those wedges out after making an examination. Not satisfied with this experience I moved the super $\frac{1}{4}$ inch over the lower hive to give ventilation and save the bees time by not having to crawl up from the lower entrance; but I do not remember ever seeing a bee enter there, but saw a few fly out. The bees did not store a particle of honey within several inches of this opening, while the combs at the back part of the hives (where there was no ventilation) were filled and capped. I tried many other methods of ventilation, such as auger-holes, blocks at the corners to raise them from the bottom-boards, etc., but it will not do in this climate. I kept bees in Illinois as a recreation from office work; and not only did I have the hives ventilated, but I had a shed built over them, and I could not make up my mind that they did not need it here until I got several knocks.

At the noon hour, July 8 (note the date), I read *Stray Straws*. At sunset, same date, I took my gun and went out to watch for a skunk that I had seen prowling around the apiary the evening before. I sat on a box not more than five minutes when I returned to the house for my coat. After reaching the apiary this time I stayed not more than ten minutes, because I was uncomfortably cold. There have been but two nights since April (we had desert winds and a week of very warm weather in April) when one did not need a coat after sundown and before sunrise. I have had occasion to ride at night in midsummer, but have never been out when I did not need a coat.

I am only about six miles from the Mexican line, and presume the climate here will compare favorably with the climate in which the "New Mexico Chap" lives. When we compare the foregoing with the sweltering summer nights of the East it seems to me nothing more need be added to convince the most dyed-in-the-wool advocates of ventilation that it will not do in all localities. We in California might say with as much propriety that the bee-keepers in the East ought to leave their bees out all winter without any protection, for we do so here.

ARE HONEY AND FOUL BROOD EVER IN THE SAME CELL?

In answer to my question, "Did any one ever see foul brood and honey in the same cell?" W. A. H. and J. G. Gilstrap, pages 412 and 419, both say they have. Is it not possible that the foul matter might have been in a cell by itself, and, in the process of uncapping, the honey and foul matter were drawn together, making it appear as though they were both in the same cell? I am sure I should not relish the honey I eat every day if I knew or even thought those little housekeepers were so slovenly in preparing their food, for I can not conceive of any thing more vile; and if they would mix nectar with that foul stuff they would not hesitate to mix it with any other unclean matter. My observations have led me to believe bees are very cleanly in their habits when environment permits. I notice that, before nectar or eggs are deposited in the cells, they are cleaned out and polished until they shine like the proverbial colored gentleman's heel. The eight colonies or eighty frames referred to in my article are now in use, and are marked with a cross on the top-bars. I notice them every time I extract. Now, will you kindly note carefully the manner in which they were obtained? The year 1905 was a good one. The bees were brushed on to foundation in the height of the honey-flow—not a drawn cell below the queen-excluder in which to store honey, so that, if any was stored, it had to go above among the foul brood; but not one particle was ever put into a cell until it was either cleaned out or torn down, and a new one built. Some of those combs have been used in the brood-nest, and I am as sure as we ever can be of any thing that I have not

a cell of foul brood in any of my apiaries. I have not seen any foul brood for some time, but in "harking back" I can not remember ever seeing foul brood capped after it had arrived at the stage of semi-liquid or matter substance. The cappings all disappear, but I do not call to mind at just what stage; but it is my impression it is before it arrives at this watery state.

I hope there is no one who reads this article who will think I am posing as a critic, for if he does he will be greatly mistaken; but I do not think that contributors should be only pawns in the game when things are written; for, though absolutely true for some localities, it would lead to disaster in others.

Jamul, Cal., Oct. 2.

[What our correspondent says illustrates most forcibly the effect of locality on management. We spent some days in Southern California in 1901, and one of the things that impressed us was the rapid drop in temperature after the sun went down. We are quite prepared to believe that what would be good practice in Ohio or Illinois might be very bad in California.]

We have been told before that for some localities a lead pigment alone is not as good a combination as lead and zinc combined. Southern California seems to be one of those localities.—ED.]

PERFECT CONTROL OF BEES WITH ECONOMY OF LABOR.

BY J. E. HAND.

Continued from last issue.

In a former article we outlined certain correct methods of applying scientific principles for the control of bees in a location where the main harvest comes from clover and basswood or other early-blooming flowers. While the principles themselves are equally effective in every location, the method of applying them must be governed solely and entirely by location, and time and duration of the honey-flow. A little carelessness at this point will render the system less effective; however, the methods may be modified to suit every existing condition resulting from changes in the time of the honey-flow as we find it in widely distributed areas. For instance, in a location having a light flow early in the season, the main harvest coming from buckwheat, heartsease, or other late-blooming flowers, it is highly desirable to work for increase early in the season, and enter the main harvest with twice or three times as many colonies as were started with in the spring, and have them fairly boiling over with bees in time for buckwheat.

In the case we mentioned above we would open the side entrance to No. 1, so as to get the bees accustomed to using this entrance for a few days before making the first shift. This will hold part of the field bees in No. 1

when the first shift is made, which is desirable when forming increase.

Proceed as usual with the first shift; but instead of making a second shift we would, ten days after the first shift, remove colony No. 1 to a new location, putting an empty hive in its place, first placing in the center of it two combs of brood and bees from No. 1; then fill the empty space with combs or full sheets of foundation and give colony No. 3 a queen.

We have now trebled our number of colonies with very little manipulation, and there will be plenty of time to build them up strong in time for a late harvest. In order to build them up rapidly, such colonies should be fed when there is no nectar to be gathered. This is easily done since the equipment includes a feeder that is always in position ready for instant use.

The slight manipulations necessary for the perfect control of bees under the new system can hardly be considered as labor. It is mere child's play compared with other methods of swarm control. In all my bee-keeping experience nothing has given me greater pleasure and satisfaction than this simple equipment for controlling bees. Its principles are applied in such perfect harmony with the instinct of bees that it "hoodoos" them completely, and they work with a vim and energy fully equal to a natural swarm.

Its usefulness is by no means limited to swarm control, but continues all along down the line of bee-keeping methods with equal power for economizing labor. This system will give 100 per cent increase and one-third more surplus honey than any method of swarm control that has yet come to my notice, and with one-fourth the labor, the hives being so close together there is no traveling back and forth from one hive to another. Then at the close of the season the two colonies may be packed for wintering on the tenement-hive plan without moving a hive.

The swarming problem is solved, and the hive question is no more a fruitful subject for discussion, since one hive is practically as good as another, and all hives are but an open book when correct principles are applied by correct methods.

The only unsolved problem that I can now think of in connection with bee-keeping is, "What are the writers upon apicultural subjects going to do for subjects to write about?" Doubtless the new system will receive its share of attention; and when the battle of opposition and conservatism is over and the smoke has cleared away, its virtues will shine with an added luster. Its fundamental principles are as solid as the universe, and will so remain until the instinct of bees and the reasoning powers of man are no more.

The writer is preparing matter for a booklet entitled "Bee-keeping by Twentieth-century Methods," setting forth in a clear and concise manner the many ways in which the new system may be utilized to lessen labor and reduce the cost of honey produc-

tion, thus reducing the complex methods of honey production to a simple science with few manipulations. A careful reading of this will enable any one to produce paying crops of honey, and have his bees under perfect control *all* the time. Inquiries relative to the new system should be addressed to The A. I. Root Co., with whom we have made arrangements to furnish the equipment to bee-keepers.

Birmingham, Ohio.

HONEY-BEES, BUMBLE-BEES, AND WILD BEES FOUND IN THE SAME FLOWER.

BY T. P. ROBINSON.

Last year I observed what I term a "phenomenon" in the bee-world. In this country all members of the cactus family abound abundantly in many places; but in my immediate locality there are only the fewest to be found of any variety. Yet not over 100 feet from my house, just out of the yard, in fact, a very large cactus grows, known here as the prickly pear, and it was on the first blossom to appear on this bush in the spring that I saw all the bees above stated at work at the same time. I chanced by this bush, noticed the blossom, and there, to my astonishment, saw a huge bumble-bee, three honey-bees, and three wild bees, all in the same flower. I looked at them for quite a while, and saw that not one of the bees of the different species paid the least attention to the rest. They would tumble and root each other out of their way, and crawl over and under each other in the best of good nature, each one doing his very best to get all that there was in the flower. All were yellow with pollen. I am sure that this was the first bloom of its kind this season.

What made the episode more interesting was the fact that the bumble-bee was as large as all three of the honey-bees combined, and one honey-bee was as large as all three of the wild bees combined.

Bartlett, Texas.

Will Cotton Supplant Alfalfa in Imperial Valley, California?

You can see by the enclosed clipping that my "holler" in Oct. 15th issue, about cotton superseding alfalfa in Imperial Valley, had a good foundation, and that there is cause for alarm among bee-men here.

Imperial, Cal., Oct. 29.

J. W. GEORGE.

[The following, from the *Imperial Daily Standard*, is the clipping referred to:]

THE VALLEY OF THE GREAT STAPLES.

No one can tell how large the next cotton-crop acreage will be; but it is certain that it is going to be much greater than that now being harvested. In all parts of the valley, land is already being rented for the next crop, much of it to persons who have not heretofore taken part in the new industry. Estimates of the coming acreage run up to 50,000 and even 100,000. Certain it is that cotton has, in the average case, made good; and each year, as the growers become better acquainted with local requirements in the industry, the average yield will increase. Many lessons have been learned this year by the growers, and soon cotton-growing will be reduced pretty nearly to an exact science.



HOW R. F. HOLTERMANN CARRIES HIS TWELVE-FRAME HIVES INTO THE CELLAR.
 He lifts the hive as shown in Fig. 2, and then brings it up against his body as in Fig. 5. Positions in 4 and 6 put an unnecessary strain on the back, and interfere with walking.



WILLIAM H. CROWSON DEMONSTRATING BEES AT THE TRI-STATE FAIR
AT MEMPHIS, TENN.

CARRYING HIVES INTO THE CELLAR.

The Right and Wrong Way of Doing it.

BY R. F. HOLTERMANN.

[When we called on R. F. Holtermann last summer we were prepared to catch him in some moving-picture stunts; but, unfortunately, at the time, having to hurry on, and his yard being located some distance from Brantford, we did not think it practicable to secure any pictures. Along this fall he called at Medina on some business; and while here we availed ourselves of the opportunity of catching him in a moving-picture stunt, the result showing his method of carrying bees into the cellar, as well as the *wrong* way of doing it.—ED.]

It is important in all one's operations to plan to reduce the labor and physical exertion used in accomplishing his work. It is this in part which makes men valuable in

the factory, in the work-shop, on the farm, and in the bee-yard; and when one is working for himself he reaps the full benefit of such planning.

The further out on the bar of a 240-lb. scale we draw the weight, the greater the strain required to lift it; and so when we carry weights, the nearer we can keep them to the point of suspension the less of an effort is required on our part in carrying them. The closer I can keep a given weight to my body, the more convenient it is for me to lift, and the less effort it takes to carry it. In carrying a hive, what a bee-keeper should aim at is to pick it up and carry it to the cellar with as little strain on himself as possible, and

at the same time not disturb the bees. They should not know that the hive is being moved from its position on the hive-stand. This can not well be done if the general method of carrying a hive is used. For example, a hive taken from the back by the handholes, as in illustration No. 4, rests at its back against the legs of the operator; and as a step in advance is taken the hive is forced forward with one leg, only to be struck with a bump by the other leg as he walks. Such motions result in jarring the hive and disturbing the bees, to say nothing of the very great inconvenience and strain on the apiarist.

In carrying the bees to the cellar there are generally two of us. We put two twelve-frame hives on a hand-barrow and carry them into the cellar. We have, however,

quite often carried them one at a time. Often I have carried the majority of 400 colonies out of the cellar alone, and have even taken them alone down from piles tiered four and five high. There are very few twelve-frame L. hives which run over 100 lbs. in weight, and any ordinary able-bodied man should be able to shoulder unaided a bag of wheat which weighs 120 lbs. I would much sooner handle the twelve-frame Langstroth hive, and I think there is more money in it than handling the bag of wheat.

Hives should be on a stand so arranged that there will be finger room between the bottom of the hive and the stand, as shown in Figs. 1 and 2; then the hives can be readily picked up. In our case the wooden covers are removed from the hive before lifting, leaving the cloth or honey-board over the frames exposed as shown in the illustration.

We then walk up to the hive, taking up our position directly behind it, as in Fig. 1, and stoop down, putting one arm on each side of the hive and the hands (for which there is a convenient space between the hive and stand) under the bottom of the hive as in No. 2.

We then left the hive, and, in the process of so doing, bring the front of the hive uppermost, and of necessity the cloth or honey-board against the breast and stomach, as in Fig. 5. In this position we hold the hive to the body closely and firmly. When so held, even when walking steadily, there need be no jarring of the hive by its changing its position relative to the body. In this position, too, on the principle of the extended weight on the scale-bar, it takes less effort to carry it than when carried as shown in Fig. 6 or as in Fig. 4. My hive is 20 in. long, but only about 10 high.

No. 4 shows the hive in the worst position of all. The hive is constantly bumped by the first one leg and then the other.

I have pointed out (to men learning bees, and men otherwise working for me) this method of carrying, and there has been but one verdict, viz., "It is much easier than any other way."

Brantford, Canada.

ANOTHER BEE STUNT.

Bees Handled in a Cage by an Operator Wearing only a Bathing-suit.

BY JOHN M. DAVIS.

I am sending you a photo of Mr. Crowson, who demonstrated for the Tri-State Fair at Memphis the first week in October, showing how bees can be handled with impunity. At times his head was literally covered with bees as was all of his body, though he was dressed as in the photo.

The reporter who wrote up the matter made a good many blunders as usual that would look foolish in a bee-journal, where

readers are better posted than ordinary newspaper perusers.

Mr. Crowson is my assistant queen-breeder, and came to me totally ignorant of bees and their management; but you will note that his demonstrating is in the front rank.

Spring Hill, Tenn.

THE STUART FOUL-BROOD CURE TESTED.

BY REV. G. A. WALTER.

From three colonies last year I have increased to nineteen, about half of which I purchased from my near neighbors. Some two-frame nuclei which I bought from a prominent queen-breeder developed American foul brood. When I first discovered the disease I burned up the first frame, comb and all, but the bees got at some honey which I had cut out, and so spread the disease through my whole apiary, with one or two possible exceptions.

Without experience with the disease, I read up on it and began experimenting. The awful drouth made it hard to do any thing in July, August, and a part of September. However, in July I took about a dozen of the worst foul-broody combs, and, according to Mr. Stuart's plan, put them over two of my strongest colonies, which had the disease in a mild form, to watch results. Up to Sept. 15 the bees never touched the combs; but since that time they have done as Mr. Stuart says they would — they cleaned them up, and to-day, Oct. 15, I have some frames apparently clean and filled with honey. About 50 of these foul-broody combs have been put over other colonies, and the most of them are nearly all cleaned up so one would never suspect they were foul-broody. Some still have a cell here and there where the foul stuff has not yet been cleaned out; but in every instance it is in frames the combs of which are only partly filled with honey. Unless the bees put the honey into cells with the foul brood they are cleaning up the combs as fast as they need the room for honey.

I believe that, if I could extract this honey and let the bees fill them again, I'd get the same results Mr. Stuart does; but I have no extractor as yet.

One colony I shook on to frames with narrow strips of foundation in them, putting a queen-excluder over the bottom-board. These swarmed out; but what became of the queen I know not.

Three colonies I treated in September by the method given by Mr. Steele on p. 531, Aug. 15. Two of these are in fine shape now, while No. 3 is weak and has little honey, owing to the fact, probably, that it was in bad shape when treated. They will need a frame or two of honey to go through the winter.

I still have eight or ten colonies which are affected by the disease. Of these three methods tested, Mr. Stuart's appeals to me as the most economical and simplest to use,



FIG. 1.—BANANA-PLANTS AS THEY APPEARED IN W. A. PRYAL'S GARDEN, OAKLAND, CALIFORNIA, TWO YEARS AGO.

provided one runs for extracted honey. I shall try his plan more extensively next summer.

Ashton, Ill.

[We hope you will keep us informed of your further experience with the Stuart treatment next season.—ED.]

BANANAS AND BEES.

A Tropical Plant Yielding Valuable Fruit and Much Pollen.

BY W. A. PRYAL.

Few indeed are those persons who have not eaten bananas and formed a fondness for them, especially when they have been secured in the right condition for edible purposes; but I am sure not many have seen a banana-plant in blossom. It is a remarkable bloomer. One might be in the furthest part of the globe when a banana-plant at home had just commenced to bloom, and he could finish his sight-seeing, and leisurely proceed homeward, and still be in time to see the flower in all its peculiar glory—possibly being even then some weeks ahead of its final dissolution.

A blooming banana, especially *Musa en-*
cente, known as the Abyssinian banana, is

the variety that I am now writing of, and not the fruiting sort, *M. sapientum*, though, I believe, the manner of flowering is about the same in both varieties. I have never seen the latter during its period of inflorescence, though I have seen it bearing fruit.

The past season we had a couple of the ornamental bananas bloom on our place. I had seen them on numerous occasions previously, but never at such close range that I could study them. Before one of our plants had finished blooming I took a tall ladder, and, by means of a rope and long butcher-knife, cut the flower at the bend of its "goose-neck," and lowered it to the ground with the rope. An examination showed its manner of blooming. It is very interesting indeed.

Having made photographs of one of the plants at various stages of its growth, I am enabled to show some of its life-history, as it were. Here I might mention that these plants were a few of a lot raised by the writer's father from seed sown a couple of years before his death, three years ago. Some of them were planted in the garden, where they were allowed to grow undisturbed winter and summer. A few were kept in large pots for decorative purposes. Most years our winters are sufficiently frosty to injure partially or nip the foliage of these bananas, though never enough to do them

permanent injury. Some years they would not be nipped at all; then, sometimes, in our coldest winters they would not be injured, especially when planted in a protected situation, or when encased in a blanket or burlap covering.

Fig. 1 shows our finest specimens as they appeared two years ago, and Fig. 2 shows one of the same plants in July of this year when it had been "blooming" two weeks. The foliage had been pretty severely touched by frost last winter, but that is not the entire reason that the plant has such a woebegone appearance. With this banana, as with the well-known century-plant, when it comes to its period of fruition it seems to withdraw all sustenance from its foliage, and throws its entire life into its flower-stem and blossoms. Every thing about it seems to wither and die except the trunk and the apex of the flower. There is no pyrotechnic display about the blooming of the banana. The tip of the flower-cluster stealthily pushes itself from among the leaves and soon curves downward. A new flower is constantly being pushed from out the center of the cluster. No matter how often you look within the opening, be it now or two months hence, the flower looks just the same; and if you are not a careful observer you will probably imagine that it is the identical flower you last saw. A dozen—yea, a score—might have unfolded and yielded their pollen to the bees in that time. To illustrate, Fig. 3 was taken Oct. 1, some months after Fig. 2, and yet the period of inflorescence had not yet reached its climax.

In order to show one of these flowers in detail I took a long butcher-knife and cut through the flower lengthwise and removed a few of the petals, and bent some others well backward, as pictured in Fig. 4. The flower is in bloom where the middle row of anthers or stamens shows. The petals at this stage reflex so as to open up the flower to give light and air to the wonderful floral mechanism; also to invite bees and other pollinizing insects to come and revel in the greatest mass of pollen produced by any single flower in the world. It is no exaggeration, and I have no fear of being cast into the Ananias Club when I state that the pollen in one of these circles or whorls may be gathered up with a teaspoon. I did not measure the amount, but I should judge there would be several spoonfuls. It is mostly of a coarse texture—far heavier in grain than any other pollen I ever saw. Nevertheless, bees pile right into it as they would into a meal-sack, and load up with the dust; but there seems to be some of this pollen-grain that is finer than others. I believe that the coarse grains burst as they reach maturity, and thus provide the fine



FIG. 2.—THE BANANA IN BLOSSOM IN JULY OF THIS YEAR.

fertilizing pollen; but I did not investigate this. By reference to the same figure it will be noticed that the stamens shown where a petal was removed from an unopened flower are large and plump. At this stage, what appears to be a single anther is in reality several—two or three—and they enclose the pistil. When the flower opens they expand or burst, and liberate the pollen as shown in the second or middle row of anthers. I suppose each group of these anthers and pistils makes a complete flower, for it is they that make the fruit. You will notice by observing a cluster of bananas that the fruit is attached to the stem in successive rings or layers. And it is this manner of blooming that so produces the fruit. Wonderful is the banana! But the way it gives forth its nectar is still more wonderful. While the bees may get some of this sweet by climbing into the flower they do not have to do so altogether, for it comes in a constant stream, though not over-copiously, from the apex of the cone, which is always downward, as shown in Fig. 2.

Will it be profitable to plant this banana for bees? No, I hardly think it would. I know I would not think of doing so, though I should surely want a few about the apiary for the ornamental effect they would produce. Where shade is wanted for hives—stands their leaves would be serviceable.

Oakland, Cal.

THE COMMUNITY HIVE.

A Scheme for Working Ten Colonies in One Large Tenement, Separated from each Other by Wire-cloth Division-boards.

BY GEO. W. PHILLIPS.

Dear Mr. Root:—So long a time has passed since my name appeared in your paper I fear most of your readers, and perhaps the editor himself, will have to look over GLEANINGS of five years ago to recall who I am. At any rate, my college and university studies have not lessened my interest in bees. Throughout my seven years of student life I have endeavored to keep at least partially in touch with apicultural progress. More than once I have been honored by requests to address scientific departments upon the more practical aspects of bee-keeping; and, one year excepted, two hives of bees have always shared with me my suite in the dormitory.

Some three years ago I wrote an article for you upon the subject of indoor wintering. Since then I understand you also have tried the method and found it highly successful. Last winter, by keeping my window hive in a very warm room, I managed to pull through a nucleus so weak and impoverished that in any other situation it must have died. I recognize that his method of wintering must, for the present, remain the method of the man of few colonies. Perhaps some time the bee-keeper of large interests will devise a method of bee-house construction by which large apiaries may be wintered indoors at a temperature of 70°. In fact, the longer I handle bees the more inclined I am toward the indoor method. If ever I go to the tropics again to launch once more into the bee-business I shall certainly consider seriously the open shed. I am convinced that the saving in hives would be alone sufficient to cancel the cost of such construction. You have no idea of



FIG. 3.—THE SAME PLANT AS IN FIG. 2, BUT TWO MONTHS LATER, SHOWING THAT THE PERIOD OF BLOOM IS NOT YET OVER.



FIG. 4.—BANANA-BLOSSOM DISSECTED TO SHOW THE FORMATION.

how bee-hives act in Jamaica. Your cleated covers, if not abundantly and frequently painted, wrinkle up and crawl off the hives like ground lizards. Only metallic covers, or those that are double-roofed, eliminate the everlasting robber-line. And as to rotting—well, I don't want to seem to exaggerate. Indoors, with first-class results, I have kept a portion of my home apiary in the tropics. Discomforts of rain and sun were eliminated, besides a saving of the weather on the hives; and the same would be true

to a great extent in the North, with the further advantage of being able to work continuously on chilly days, without endangering the brood, and the entire elimination of winter losses.

This summer I have been working out some advanced problems in bee-keeping, and all my work has been done indoors. I am planning to continue my work next season, and then I hope to have a sufficient number of colonies for more exhaustive experiment. I have just put away twelve nuclei for the winter.

I can not concur with your Mr. Pritchard's conclusions concerning queen-cells. Virgins are the only rapid (and consequently economic) method. But I have no time for discussing this at present, only to say that my season's work along this line has been fruitful, and I may find time for some other article in the future. At present I want to tell of what I call the community (or tenement) hive—a device *perhaps* more particularly adapted for use indoors.

This hive I keep on the porch adjoining my study upstairs. The length is normally Langstroth—20 inches; and its width, that of ten ten-frame hives placed side by side. In other words, it permits of ten ten-frame honey-boards and supers being placed on top. This makes a Langstroth hive-body with the capacity of somewhat over 100 frames.

But, to describe more minutely, I may say that the tenement hive is divided transversely into compartments of 16 inches. A clean vertical saw-cut $\frac{3}{8}$ in. deep, and running at right angles to the rabbet on each of the parallel sides, effectively holds a metal division-board, which also, upon occasion, may be easily removed. You have then, side by side, ten ten-frame hives all in one. The division-board I use is made of perforated tin. Next year I shall probably use wire cloth, as this is quite adequate, less expensive, and permits of greater circulation of the community heat and odor. The division-board fits squarely on the bottom of the hive, and reaches to the top so as to prevent the passing of bees from one division to the other.

I am sorry I can not describe in detail the bottom-board of such a hive, for I use no bottom-board. I make the hive-body deep enough, and clamp the structure right down to the floor of my porch. This makes it rigid, and prevents the sides, otherwise unstable, from coming together or wobbling apart. Of course, the same purpose would be attained if a bottom-board were screwed on. Next year I shall make one so. The entrances must be arranged alternately. I use simply a cluster of three auger-holes arranged triangularly in the center of each alternate compartment on each side. Thus, externally, each colony appears back to front with its nearest neighbor. To be plainer, suppose we call our ten hives in order, A, B, C, D, E, F, G, H, I, J, and say the entrances face east and west. Then A, C, E, G, I, would open to the east, and B, D, F, H, J, to the west. The danger of mixing

is thus reduced to a minimum. I have absolutely no trouble—not even with virgins in their nuptial flights.

As to covers, when I worked with you in Medina you used to turn out a perfectly flat cover with metal ends. This would be very good, and abundantly sufficient. Not having such a cover, I use ten ten-frame-super covers, or bee-escape boards. Being indoors, nothing else is required for summer. And, in fact, any ordinary flat cover will supply additional protection when it is necessary. You can then open any compartment and look it through without inconvenience to its neighbors on either side.

The advantages of such a hive are so obvious as hardly to need comment. First, as to cost. There is a great saving in material and labor. I can not tell what the factory price would be; but I made my own hive—did it in a few hours—and I know the relative cost of ten ten-frame hive-bodies.

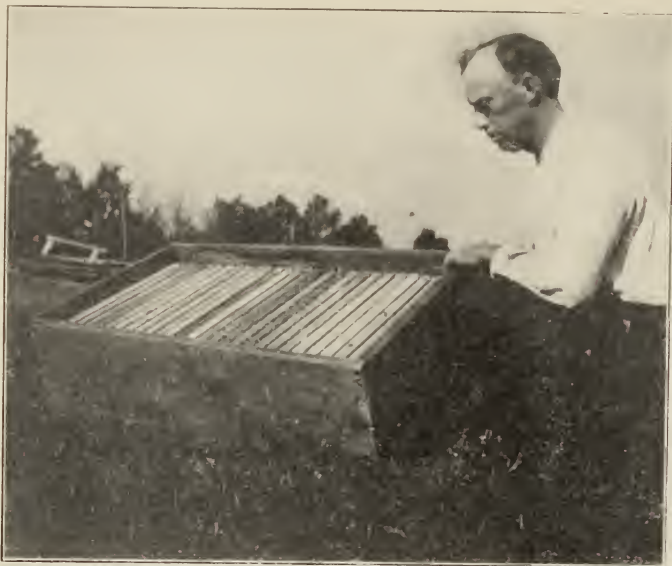
Secondly, as to the utilization of space. Here is the hive of all hives for the man in the city—the great ideal for the porch, the flat roof, or the cramped back yard.

Thirdly, for uniting, equalizing, etc. No fighting—not a dream of such a thing. The community heat and colony odor penetrate and permeate all. The frames are interchangeable, of course. One may ask about robbing. There is not the slightest trouble, and my neighbor's apiary is next door. In fact, so perfect is the socialism of the system that the economy of the single hive seems to prevail. Destitute colonies seem never to starve so long as their neighbors have a drop. From many experiments, I am practically certain of this.

Fourthly, and following closely on the above, is the subject of queen introduction. This, to say the least, is much simplified. Any ordinary queen-breeder knows how much easier it is to introduce a queen from one compartment of a double nucleus to the other compartment, than to introduce such a queen to a foreign colony. In fact, the principle is the same as caging a queen in a hive prior to releasing her. In each case, the common community odor is transmitted through the wire cloth.

Finally, wintering. Need I say any thing here? Is it not sufficiently obvious that each colony is protected by the warmth of its fellows? Why do arctic explorers with Eskimos, dogs, and all, herd together? Read Peary in Hampton's. The inter-communication of heat—that's the idea. My stock of bees is slim this year; but I am purposely wintering on an open porch, and without any protective padding to test the winter value of the community method.

I noticed the other day in an old magazine where Mr. Edison, or some such thinker, advocated, instead of the congested city, the community house, winding like a rural road through the long vistas of the country. The mechanical features and advantages of this inventor's architecture find some parallelism here. One can almost see arising a new style of apicultural architecture in



A RELIC OF THE PAST GENERATION.

This "Long-idea" hive, as it was called, was once considered quite favorably by a number of bee-keepers; but the difficulty in handling it, due to its unwieldy size, limits its use considerably.

which five hundred colonies might thread a single structure—spiral, angular, or what not, according to local mechanical requirements or the artistic temperament of the bee-master.

Wyoming, Ohio.

[Perhaps we should explain that Mr. Geo. W. Phillips was for three or four years our queen-breeder at Medina. It was under his administration of the yard that baby nuclei of the Pratt style were made to work successfully. While our other men were equally successful, they deemed it more practicable to use larger twin nuclei with a very thin division-board between. It was, perhaps, this form of community hive that suggested the idea to Mr. Phillips.

It is our opinion, although we can not just now refer to the place, that this same general scheme has been tried before. If we remember correctly, this kind of tenant scheme will work after a fashion; but we believe it is not practicable to work more than two colonies on such a plan. Among our large circle of readers there are certainly some who will remember of experiments along this line; and if so, we shall be pleased to have them give the results or the reference.

We have worked colonies in pairs separated by wire cloth. Our Mr. Wardell, who operates our Uhrichsville yard, puts an upper story, divided into three compartments each, on top of a strong brood-nest. Wire cloth separates the upper from the lower compartment. In each of these divisions above are placed two frames of bees and brood and a queen-cell or young virgin. The plan works very satisfactorily, because the heat of a powerful colony rises up to the

nuclei above that require a large amount of heat in order that their baby queens may develop properly.

One objection, as we see it, to the community hive, as Mr. Phillips has outlined it, is this:

The stronger clusters will have a tendency to get together on each side of a wire-cloth division-board. This will have a tendency to leave the other smaller clusters high and dry between, we will say, two other double clusters. Unless the brood were pretty generally equalized, some would be much stronger than others. It is in their play-spells that young bees will fly to those entrances where the bees are flying strongest; or, to put the proposition another way, we do not believe it is practicable

to have so many colonies with entrances only 16 inches apart. The scheme has been tried in house-apiaries, and it has never proven very satisfactory.

But it is but fair to state that Mr. Phillips, before he came to this country and engaged to work for us, had run some two to three hundred colonies of his own in Jamaica, his native land, several seasons. He is a bee-keeper of large experience; and while we have our doubts as to the practicability of this scheme we shall be glad to hear of the results a year hence.

Referring to the plan of wintering indoors with an entrance leading to the outside, we may say the plan has not worked very satisfactorily at Medina. We have been trying it for three or four years. A temperature of 70 degrees causes the bees to consume too largely of their stores. This results in a congestion of the intestines, so that large numbers have to take a cleansing flight whether the weather is suitable or not. Most of them in unfavorable weather never return. At all events, it seems to be apparent that a colony wintered on this plan will never be very strong. Nature has designed that bees during winter shall go into a sleep, during which they go into a state of semi-hibernation. In tropical countries, or we will say in our own Southern States, where the bees can fly two or three times a week, they can cleanse themselves properly after a few days of confinement; but a colony kept at the temperature of a living-room throughout the winter where it can not have more than two flights during the winter, can not cleanse itself as it should. The overeating has a tendency to wear out the bees, resulting in premature death.

We do not go so far as to say that this scheme of indoor wintering is not a success. We expect to continue our experiments.—Ed.]

THE OLD LONG-IDEA HIVE.

BY GEO. SHIBER.

In our yard we have several of the "Long-idea" hives. In most cases they are old hives that I bought containing bees, and I made them over to take the L. frame.

The illustration shows the inside of the hive. It is a first-rate summer hive, but not good for winter, as it is, of course, too bungling and heavy to carry into the cellar. In a locality where bees can be safely and profitably wintered outdoors these hives are all right, as one can get booming colonies in them. It is too cold to winter on the summer stands in this locality.

Randolph, N. Y.

A SUBSTITUTE FOR GRAFTING CELLS.

A Tool for Cutting out a Cell Containing a Larva of the Right Age for Queen-rearing.

BY MARK W. MOE.

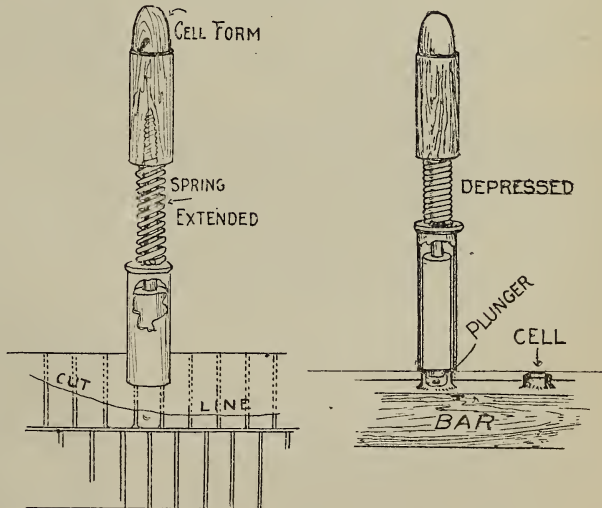
Oliver Foster once said; "Some of us have clumsy fingers, and do not succeed very well in transferring larvæ for queen-rearing." Perhaps I have not quoted him exactly, but his words were to that effect. He went on to state how he cut out bits of comb having just one larva in each piece and then fastened these to a bar with melted wax and rosin. In my own experience, though I have tried repeatedly, I have met with unsatisfactory results whenever I tried to transfer, so that I always went back to the Alley plan of cutting the comb in strips and shaving the cells down close to the middle of one side, and then, after destroying every other larva, fasten such a piece of comb with melted wax and rosin to the bar.

All this led to another situation which I did not like, and that was that I was obliged to cut the cells apart, thus spoiling some of them, and then having cells that were more fragile than the artificial ones. I had to leave the cells attached to each other in the cell-building colonies, no matter how many cells were missing, instead of having each cell readily separable, as are the wooden cell-cups. To sum it all up, I wanted some method by which I could transfer larvæ without disturbing them, and still have all the advantages of artificial cells and wooden cell-cups. At least in my

experience, bees accept the larvæ much better when they are not tampered with by man; and if we can eliminate the transferring of royal jelly we save just that much time and bother. Mr. Will Atchley accomplished this by cutting the comb down with a sharp knife or razor, and transferring with tweezers the cocoons containing the larvæ together with the food which the workers had placed there. Mr. Pridgen used a stick that just fit the inside of a worker-cell, with the end hollowed out so as to avoid touching the larva when transferring. I have had some success by using the latter plan, but it necessitated using old comb, and sometimes even then the cocoons would not separate from the comb in a satisfactory manner.

The larva-transplanter or cell-cutter shown in the illustration will transfer larvæ from tough old black combs, or from partly drawn foundation, or from any condition of combs between these two extremes, without touching or disturbing the larvæ in any way. This means that those of us who have clumsy fingers can use it as well as any one else. The comb which I prefer, however, is a comparatively new one, as I can work more rapidly with it.

By this device we can have all the advantages of the Alley, Atchley, and Pridgen plans combined with those of Doolittle, Root, and Swarthmore as well. There is no necessity for hunting for royal jelly or making a colony queenless several days to obtain it before starting a lot of cells. Other conditions being right, the bees readily accept the larvæ.



Select any larvæ desired, regardless of the age of the comb. No transferring-tools are needed besides this device. If the cut-out cells are to be attached to regular Swarthmore compressed cells the shape of the compressed wax might have to be altered somewhat, but I think the regular shape would

probably be all right. The wooden handle of the device is made the exact shape of my cell-form, and it is just right also for dipping in melted wax to make artificial cell cups, according to Doolittle's way.

To use my device, shave the comb down to within $\frac{1}{8}$ inch of both sides (less than that is better still, say $\frac{3}{16}$ over all), then press the plunger down right over the larva if using old tough comb. If the comb is comparatively new the inside plunger is seldom necessary. Then press the cutter down firmly, twist it slightly as dough is cut with a cooky-cutter, and withdraw it from the comb. Lower the cutter until it rests on the shoulder inside the artificial cell-cup, then press the plunger down gently but firmly, and after it is turned a little it may be withdrawn.

Denver, Col.

[Our Mr. Bain says he has often thought he would like to make some such device as this, and he is prepared to believe that it will be a good thing. The illustration is faulty in that it shows the transferred cell attached to a bar rather than placed in an artificial cell-cup. If a wooden cell were made just the right shape it would hardly seem that any artificial wax cell would be necessary.—Ed.]

COMMENTS ON RECENT DISCUSSIONS.

BY J. S. PATTON.

As the editor has asked the readers to give their experience on several different questions I will try to throw a little light on some of them as I view them from this southern location.

SHADE HAS NO EFFECT ON THE SWARMING PROBLEM.

Several years ago I built a bee shelter running east and west on the south side of a house, and I also located some hives on the north side of the house. There was a good deal of shade, and the sun shone only on the hives that were on the south side of the shelter. Most of my colonies are out in the hot sun, and I see no difference in the results. Colonies made as much honey and swarmed as much in the shade as did those in the sun.

COTTON HONEY FINE.

Cotton honey, when it is thoroughly ripened, is about the color of good castor oil, and has a fine flavor. However, we seldom get much of it here, as the bitterweed nearly always blooms at the same time.

SEALED HONEY MAY NOT ALWAYS BE RIPE.

My experience last year was exactly in line with that described by Mr. Doolittle, page 71, Feb. 1. The weather was very dry during our first honey-flow, and the honey was almost ready to extract when first stored. Later, during the second flow we had very wet weather, and the honey was not fit even when it was all sealed.

HONEY-DEW FROM PINES.

Three or four years ago my bees gathered honey-dew from the pines, which was like that described by Dr. Gates, p. 91, Feb. 1. The flavor was very good. I had never seen such honey before, nor have I since, and I have never known bees to be on the pines at any other time.

QUEEN-EXCLUDERS INDISPENSABLE.

A good deal has been said for and against the use of queen-excluders. We could not produce extracted or bulk comb honey here at all if we did not use them, for the queens will fill every comb full of young brood every chance they get.

VARIATION IN QUEENS.

After reading what F. Dundas Todd has to say, p. 152, March 1, and also what Louis H. Scholl says, p. 246, April 15, I will give my experience. I have bought but two tested queens, and they were almost complete failures. Of the untested, one died soon after she began to lay; about two-thirds of them were fine layers. I can not see why anybody should think that he can buy better queens than he can rear at home.

LITTLE HONEY FROM PEAS.

Mr. Boyle Dillard, p. 235, April 1, wants information in regard to pea honey. In this locality bees work on peas to some extent, but I can not see that what they get amounts to very much. Possibly it is because there are not enough peas raised close to the apiary.

GEESE KEPT IN THE APIARY TO KEEP THE GRASS DOWN.

Some have asked about a way to keep grass out of a bee-yard. I have found that the best thing to do is to keep geese; but it will not do to allow goslings near the bees. Hogs, too, are all right for this purpose.

EARLY DRONES.

On page 272, April 15, Mr. Stock refers to drones which might have wintered over. When I kept bees in box hives, so that there was plenty of drone comb, I frequently saw drones in February or the fore part of March; but I think it was because of the great amount of drone comb in the hives.

ITALIANS SWARM MORE THAN BLACKS.

What Mr. W. C. Mollet says, p. 286, May 1, interested me very much, as did also the article by Dr. Bonney, page 293, May 1, and the discussion on the subject of "The Best Bee," p. 296, May 1, by D. M. MacDonald. When I began working with bees as a little boy, in the 80's, I had the common black bees; but in 1900 I began with the yellow bees. In looking back over my experience with both kinds, I find that the Italians have earned the reputation that Mr. Mollet gives them in regard to swarming. I had a good many colonies of blacks that would not swarm for three or four years, and there was one black colony that did not swarm at all, although I had it for seven or eight years in a box hive. This swarming question is becoming a serious one with me.

Our first honey-flow begins between March 25 and April 15, and this is our swarming time. For the last ten years we have had a good deal of cold, windy, or very wet weather just about the time the bees start to work; and as soon as it gets warm again every colony tries to swarm, and from 60 to 75 per cent do swarm. After this is over the honey is gone and no surplus secured.

I run for extracted honey, and I have tried giving plenty of room, also an upper entrance, as well as an extra-large opening at the bottom by using four blocks as Mr. Ackerman describes on page 320, May 15. None of this does any good. The nearer the bees are to being full-blood Italians, the worse they swarm. They will swarm even when there is not enough honey coming in to permit comb-building. The blacks have never done this. All this convinces me that if any one ever finds a non-swarming bee it will not be an Italian.

On p. 360, June 1, Frank C. Pellett mentions a swarm without a queen. I have had this same experience several times. I explain it in this way: The swarm must have gone off with a virgin queen which was lost in returning from her mating-flight.

Havana, Ala.

A NATIONAL BRAND OF HONEY SUGGESTED.

BY M. E. PRUITT.

If we had a "National" brand for our honey, we as members of the National Association would have a strong shoulder to lean against, and therefore substantial backing. A member would not dare, nor even have the inclination, in fact, to put up something not pure, and brand it with the National brand. On the other hand, no one would question the absolute purity of an article under such brand.

In the second place, more bee-keepers would rally around the National banner so as to be entitled to use the brand and its protection, thereby making the National Bee-keepers' Association that much the stronger and that much wider known, so that there would be more demand for pure honey.

Since the pure food and drug law has been in force, all bogus preparations that did not go out of business have boldly advertised their stuff under various names; and if it pays to advertise trash, why should it not pay us to advertise our pure goods with a brand that is synonymous with strict honesty? Among those benefited by this measure would be the National Association, the bee-keepers as a body and individually, the grocers and the consumers, and only the glucose-manufacturers would suffer.

A UNITED EFFORT TO PUT DOWN THE COMB-HONEY LIE.

Why would it not be a good plan for bee-keepers in one community to get together and agree to keep the following notice, or a

similar one, running continually in the local papers? "\$500 [or some other amount] to any person ingenious enough to produce artificial honey in artificial comb that can not be told from the genuine." The understanding might be that one bee-keeper should pay for the notice for one month, another for the next, and so on until this delusion about manufactured comb honey is entirely obliterated.

Eola, Texas.

[In this connection, note what Wesley Foster says, page 732, Nov. 15. For a number of years the General Manager of the National Association has given to members a label bearing the National seal to use on honey, so that the buyer may at least know that such honey is absolutely pure. If the word "brand" were used, or if the honey were advertised as the "National brand," would it not be a suggestion of manufactured goods? Furthermore, unless such honey were put up by a central packing force at National Association headquarters, say, it would vary considerably in flavor. One "brand" of honey should be the same the country over.

We had begun to think that the comb-honey lie had almost died out; but only recently it appeared again in as bad a form as we have ever seen it, in *Collier's Weekly*. There is no way except to keep on fighting it; but it is certainly discouraging when careless writers in our popular magazines make statements that undo at one stroke the united work of bee-keepers for years.—Ed.]

THE FOUL-BROOD SITUATION IN CALIFORNIA.

How the Law Works, or Fails to Work.

BY J. O. SHEARMAN.

I have talked with bee-keepers in Los Angeles, Riverside, and San Bernardino counties, and they all say that the inspectors do not come near them unless they send for them, and very seldom even then. They mostly explain it by saying, "The board of supervisors appoint men by political preference or favoritism rather than for fitness for the office." Some say that there is a certain amount of money raised each year to pay the inspector, and when that is gone there is no more to pay the inspector, and you can't compel a man to work for nothing and board himself.

Mr. Andrews, a representative bee-keeper of Pomona, and I were talking the matter over one day, and we agreed to call a local meeting of bee-men in that vicinity and see what we could do about it. So a few of us got together and agreed to adjourn it a week, and send word for the foul-brood inspector to meet with us and see what he had to say first. We met again at the house of Mr. Lee, but the inspector did not come, although a few more bee-men did, and took much interest in the question, "How to eradicate

bee-diseases in this valley" or the State for that matter.

Mr. Lee said he had charge of Fletcher's apiaries in this vicinity two years ago, and some of them were rotten with foul brood at that time, and Mr. F. had given them orders to extract all the honey they could from the upper stories of diseased colonies with the rest. Mr. Malone (present) said that he bought all of the Fletcher apiaries last spring, and found some foul brood among them; so he sent for an expert at Elsinore to attend to it. They themselves went over then three times this summer, and believed they had them all cleaned up. They found 75 colonies diseased out of 1200 purchased, but no foul-brood inspector came near.

All present (at this meeting) agreed that the law was inoperative, and that bee-keepers themselves must take it in hand. I advocated stirring up the matter enough to get a new law passed, giving the bee-men the power to appoint one of their own number as inspector. But most of those present said it would not work, as the bee-keepers themselves were apathetic, and would not come to the meetings even if called. Each *big* bee-keeper attends to his own, and lets others alone. It was agreed that the small bee-keepers keep foul-brood going through carelessness. They get a few colonies by catching natural swarms, and then hardly ever look at them except to "rob" them after the honey-flow.

It is often difficult to tell, in this valley, where there *may* be some foul brood, unless one has authority to go into all places. The boys about town often catch a few swarms, and put them in old grocery-boxes, or any old thing to hold them. They sometimes sell them cheap to a bee-keeper; but if not, then they set them in the back yard, or any old place, and so much shrubbery grows here, with the orange limbs hanging to the ground, no inspector or any one else would know there are bees kept there unless told so. These bee men hardly ever watch their bees through swarming time, and many swarms get away. Some swarms are caught; but many more get away. Some go to the hills and some get into the walls of houses or barns. Most of these small bee-keepers pay but little attention to their bees unless they are near where a team has to be driven, and foul brood may lurk in any of those places. For instance, when some bees were moved from a location not far away, some old frames were thrown out, and some were picked up by some boys who used them to hive bees in, and then sold their bees to a bee-keeper, thereby introducing foul brood to his yard.

Pomona, Cal.

[California has what is known as a county foul-brood law, and Colorado has the same. We have already learned that the bee-keepers of Colorado are dissatisfied with their county law, and are now looking for something better, providing for a centralized authority and inspectors for the entire State.

We have known for some time that the California law also was practically inoperative in many sections. Ohio for several years has had a county law, but it was a dead letter. We now have a new State-wide law that makes the State Entomologist chief Foul-brood Inspector, with power to appoint deputies—as many as he may need. As in most States, so also in our own, the Entomologist is appointed by the Ohio Department of Agriculture. This is bi-partisan, and the appointees under that arrangement are not subject to political changes. Under the Ohio law the State Inspector has eight or ten men in the field; and during the six months that the law has been in active operation the inspector has covered half the State. Under the county law absolutely nothing was done during the eight or nine years it was in force.

Both Colorado and California, and other States having county laws, should have a law like that in force in Ohio, Indiana, and some other States. It is not difficult to get such a law on the statute-books, for the law calls for *no direct appropriation*. It simply creates a Division of Bee Inspection under the general Department of Agriculture of the State. It is then up to that Department to see that funds are provided for *all* its different lines of work. The legislature is in the habit of making annual appropriations for the purpose of carrying on that work. Now, if that Department of Agriculture asks for \$500, \$1000, or \$1500 more, the legislature has no objection to increasing the appropriation, because the members of the General Assembly are not personally held responsible for the disbursement of that appropriation. The result is that, under a law such as we have in Ohio and Indiana, the State Entomologist can have \$500 or more if he needs it, provided he can show his superiors that such money is needed to protect certain interests in the State.

We wish to suggest right here and now to the bee-keepers of every State in the Union that does not now have a general State-wide law, that it is none too early for them to begin agitation. The publishers of this journal will furnish the draft of a law prepared by Dr. E. F. Phillips, of the Bureau of Entomology. When such a law is placed on the statute-book we shall not have any more such conditions as are found in California, Colorado, and elsewhere. The great feature of the new Ohio law is that the work of inspection is placed under a division that already has funds, a corps of men, stenographers, office equipment, and a chief who will see to it that the machinery of the State is brought to bear on *every county alike*. It is not necessary that the State Entomologist be a bee-keeper, for it is easy enough to find experts who, under the direction of that official, will carry on the work. In Ohio the regular nursery inspectors so far have done splendid work in foul-brood inspection, and at comparatively little expense, because the same railroad and hotel bills cover both nursery and bee-inspection work.—Ed.]

Heads of Grain

from Different Fields

Spacing Danzenbaker Frames Wider Apart; Glass Hive-covers.

In your answer to X., p. 597, Sept. 15, on spacing closed-end frames, I was surprised that you who have an answer for any thing fell down as you did. All you have to do is to cut your metal spacers in the middle, nail them on the frames, and—there you are; no tilting and no waiting to get them all in before putting in any comb-spacer.

My plan to hive or super I think away ahead of any thing you advertise. It is a pane of glass 14x17, with $1\frac{1}{2}$ x $\frac{1}{2}$ rim grooved close to one edge for the glass on top of this $1\frac{1}{2}$ piece. Breaking over the joints at the corners is a rim $1\frac{1}{2}$ x $\frac{1}{2}$, nailed to the other, giving a space of $\frac{3}{4}$ in., in addition to hive-space. This arrangement beats the Hill device; and in introducing a caged queen, ample room is provided in which to lay her, and you can see what is going on too. Nine times out of ten, with this view of any hive or super there is no need of opening a hive at all. These glass covers cost less than your boards. A box of glass with 30 panes, delivered, costs \$2.50, or a trifle over 8 cts. per glass. In a box this year there were no broken ones at all.

Woburn, Mass.

E. C. NEWELL.

[Your plan of spacing Danzenbaker frames further apart is excellent; but there is one other thing we did not mention, and which you apparently overlooked; namely, when you space closed-end Danzenbaker frames apart so that the bees can go between them, you will encounter a serious difficulty; and that is, the bees will glue the space back of the frames to the end of the hive. When the closed ends of the frames come in contact, the bees can only reach the crack that separates the frames, but can not get at the space behind the frames. If you will try your plan in a regular Danzenbaker hive, we think you will be disgusted with it after you have used it a couple of seasons. It would work satisfactorily enough for a couple of months, perhaps.

In the same way, propolis would besmear the glass covers so that they would soon be opaque. The great objection to glass is its coldness. It carries away too much of the heat of the cluster to the outside corners and edges of the hive. Glass is a splendid conductor of heat, while wood is one of the very best non-conductors. Aside from that, glass is too fragile for use in the cover of a hive. Try a few of them before you adopt them on a large scale, and we think you will see that they are not very satisfactory.—Ed.]

Beginners' Questions.

1. Is there any objection to painting hives with yellow ochre?
2. In double-walled hives, which is considered better—a dead-air space or packing?
3. Will a full colony work as well with a queen-cell as with a laying queen?
4. Which of the following would you advise for one who wishes to produce extracted honey with as little swarming as possible? The Jumbo brood hive, the twelve-frame Langstroth, or the ten-frame Langstroth, and enlarge the brood-chamber with a shallow extracted-super.
5. What is the best way to give a colony run for extracted honey an upper entrance?
6. In supplying a colony with a cell, how long a time should elapse after removing the queen before giving the cell?
7. Is there a double-walled hive with a loose bottom on the market?

Peninsula, O., Oct. 10.

A. C. AMES.

[1. If you never expect to paint with any other paint, yellow ochre will be all right, perhaps; but you could never put any other kind of paint over it, as it is so hard that oil will not penetrate it enough to make ordinary paint hold. Wood primed with yellow ochre is unfit for ordinary painting.

2. We have always considered the double-walled hives in which packing material is used superior to a dead-air-spaced hive, for the reason that it is diffi-

cult to make an air-spaced hive that, after a few years, will not crack, open up at the joints, etc., letting in drafts. Furthermore, packing material serves to hold the heat to some extent, and at certain seasons of the year this is quite an advantage.

3. A colony will not work as well with a queen-cell as with a laying queen. A virgin is better than a cell, but still not as good as a laying queen, so far as the working of the colony is concerned.

4. All things considered, we would recommend the ten-frame Langstroth hive, either the single-walled or double-walled pattern, depending on whether the bees are to be wintered in a cellar or out of doors on their summer stands.

5. The best way to provide an upper entrance is to slide the first super above the brood-chamber forward enough to leave a space between the ends of the brood-chamber and super. If an entrance at the back is not desired, a strip may be nailed over it at that part.

6. There is no reason why you could not place a cell in a hive immediately after destroying the old queen. By the time the young queen emerges the bees will realize their queenlessness enough so that they will be apt to treat the new comer kindly. If the queen has been destroyed several days before, however, no pasteboard need be left over the candy.

7. Some of the manufacturers are now making a double-walled chaff-packed hive with a loose bottom.—Ed.]

Wintering Over a Surplus of Extra Queens; is Pollen Needed in the Winter?

1. Is there any possible way that queens might be wintered with a colony of bees? Could not some kind of cage be constructed out of excluding zinc so that the bees might pass in and out as they pleased, and yet the queens would be confined and separated from their rivals?

2. Can drones from laying workers fertilize queens?

3. When bees carry pollen, is it always a sign that a queen is present?

4. What are the objections to beet sugar for winter feed? what are the methods for discriminating?

5. Do bees carry pollen and honey at the same trip?

6. I cured my bees of American foul brood Sept. 1, by the McEvoy plan, taking combs and every thing away from them. I have fed them up for winter; but what will they do without pollen? Can they get enough before winter? and will they be able to live until spring without it? Would you advise artificial pollen?

7. Can the combs upon which the bees have died in the winter from starvation or freezing be used again with safety? If so, how can the bees that are lodged in the cells heads foremost be gotten out?

Florence, Neb., Oct. 11.

A. C. HANSEN.

[1. We do not believe you would find it practical to attempt wintering a surplus of queens in nursery-cages, for, somehow or other, the extra queens die, probably because they are not taken care of by the bees. If you have an ideal cellar, and are willing to spend the time, you will not have much difficulty in wintering surplus queens if you form a lot of nuclei and winter the queens in them. Sometimes the results are unsatisfactory; but if you are careful we think you can succeed.

2. It is a disputed point as to whether drones from laying workers are capable of fertilizing a queen or whether they are the equal of drones reared under the average normal circumstances. Since there is a lack of positive proof, the safest way is not to use such drones. They are usually undersized any way, on account of having been reared in worker-cells.

3. When bees carry pollen it is usually a sign that there is a laying queen, but not always, as occasional bees might bring in pollen; but usually, when a colony is working vigorously bringing in pollen, a queen is present.

4. In this country we can rarely be sure whether the sugar we are feeding is made originally from beets or sugar cane; and as long as we never make any effort to find out, and always have good results, we think that the beet sugar as refined and put on the market in this country is perfectly safe.

5. There is no reason why bees may not carry pollen and honey on the same trip. Whether they do or not, we don't know.

6. It would be better if you could secure combs of pollen from some other colonies, and give to such colonies as have none. The bees will be very slow

about startling brood-rearing unless you do this, or supply artificial pollen. No pollen will be needed during winter.

7. If the bees died merely from starvation or freezing, the combs could be used again with safety; but it is well to make sure that the colonies had not been weakened by some such disease as foul brood, which caused them to succumb to the cold. In cases where you can not be positive, it pays to melt up the comb and substitute full sheets of comb foundation. This is not an expensive process, for the wax you will get will more than pay for the new foundation, although, of course, it will not pay you for your labor of rendering the combs. Ordinarily, you do not need to pay any attention to the dead bees in the cells, as the colonies to which you give the combs will take care of them unless you give too many to some one colony.—ED.]

Labeling Honey to Conform to the National Pure-food Law.

In regard to the pure-food law, will it be necessary to state the source or the particular bloom from which honey is gathered? For instance, I have honey gathered from white clover and aster, and probably a trace of honey-dew. Will it be right for me to ship honey and guarantee it to be all gathered by the bees? Will it be proper to tag each package going to the same firm?

Cornishville, Ky., Oct. 5.

G. W. MORRIS.

[In shipping honey in original packages it is not necessary to label them; but if the original packages or small retail packages are labeled at all, no misstatement should be made. It is not necessary to state the source of the honey; but the producer should be very careful not to label alfalfa honey as basswood, nor buckwheat as heartsease. If the honey is largely from white clover, with a very little from aster and a bare trace of honey-dew, it would be legitimate, we should say, to label the honey as "white clover," for that is practically what it is; but if the aster and the honey-dew both give their own flavor—particularly so if it can be recognized by the ordinary consumer—you had better label it just what it is, "White clover, with a trace of aster and honey-dew." But rather than do that we would recommend putting on simply the words "Pure extracted honey," without mentioning the source. To say any thing about honey-dew at all, when there is only a trace of it (not affecting the flavor), would only prejudice the consumer against it. It must be clearly understood, however, that when there is a sufficient quantity of honey-dew in any honey it must not be sold for pure extracted honey. Unfortunately, it would have to be labeled as "honey-dew honey." It would hardly do to sell this for retail consumption, and we would, therefore, recommend selling it for manufacturing purposes—that is, for the bakery trade. It will not be necessary to tag any package of honey if the package is original and your letter of description concerning the honey specifies exactly what the honey is. For example, if you are selling John Jones & Co. white clover with a little aster in it, and a trace of honey-dew, you had better, in your correspondence, state this just as it is. If your letters do not misrepresent in any particular it will not be necessary for you to tag the packages; but when selling to consumers it is advisable to put on some sort of label.—ED.]

Putting Wire Cloth over the Entrance of Cellared Bees.

Last Saturday, Oct. 29, I took my bees in, as the nights are very frosty, and the winds are cold in the day time. The weight of the hive was 50 lbs., and I think it must contain enough honey to winter them indoors; but I should like to hear from you as to what you think of my way of packing, and if you think I had better return the colony to its summer stand. I have a cement room in my cellar. It was cemented four years ago, so it must be dry. I took the hive in and stood it in a corner, not touching the wall on any side. It has two windows—one at either end—which are darkened. It is under the sitting-room where we have a fire most of the time. I took a super and nailed a burlap in it so that it would be about an inch from the frames. I filled this with dry maple leaves and placed it over the frames. I laid another double thickness of burlap on top, and then nailed a piece of wire screen across the entrance of the hive. I thought they

would be all right; but the bees are never quiet. I have gone down to listen; and, although the room is quite dark, I can hear them at that screen trying to get out. The temperature of the room Monday was 48°, and will be 45 about all winter. Is it right the bees should be so fussy, or had I better put them outdoors and freeze them to sleep? I greatly desire to winter them.

Athol, Mass., Nov. 2.

R. E. BAKER.

[Your manner of putting bees in the cellar is all right with this exception: It will not do to use wire cloth over the entrance. Get that off as soon as you can. The bees must have an opportunity to get out. Then, furthermore, we fear your cellar is not dark enough. The temperature must not go higher than 45° much of the time. If you shut the bees in with wire cloth they will attempt to get out and make a perfect uproar in the hive, when, if the entrance is free, they will crawl out where the atmosphere is cool, and go back again; but the cellar must be kept very dark.

In a climate such as you have in Massachusetts it is a question whether you would not do better to put your bees outdoors. Cellar wintering will not work very well in a mild climate. It must be continuously cold for two or three months. It would be far better for you to have a double-walled hive. If you do not wish to get a new hive you ought to have a winter case or some sort of protection over the single-walled hive outdoors.—ED.]

That Sour Smell Due to Freshly Gathered Goldenrod Honey; the Fine Quality of Goldenrod After it is Ripened.

I notice a communication from D. F. Miller, Wilkesburg, Pa., p. 670. He seems to be puzzled by a sour smell from his hives. This sour smell is from the goldenrod. We have it every fall when the bees are working on that plant. When the flow ceases he will notice it no more. The goldenrod is one of our main sources for a fall flow. It is very abundant in this vicinity. The bees generally fill one or more supers from this plant. Somebody remarked to me about the rank smell the bees emitted while at work on it. He said they would not care for honey made from a plant that smelled like that. Don't you worry about that. The bees are good enough chemists to take all the smell out and make delicious honey that will make your mouth water a little later. People have asked me to keep goldenrod honey for them in preference to any other. It makes a fine light-amber honey of exquisite flavor and good body.

I have a little joke on one of our near neighbors who noticed this smell when the goldenrod was at its best. She thought it came from the chicken-house, as they keep both bees and chickens. Calling the man one day she told him the chicken-house needed cleaning. He protested, saying it was as clean as he could make it. Not noticing any improvement she went and inspected the chicken-house and found it as clean as a whistle. Continuing to get a whiff of the smell through the open window she searched around the house, through every closet, and around the sink, but could not make out where it came from until she went out near the bees, when she said to herself, "It must come from those bees." When I asked her one day if she ever noticed it she told me her experience, and wanted to know what I thought was the cause of the trouble.

Stamford, Ct., Nov. 4.

E. VANDERWERKIN.

Bees on Shares; a Peculiar Situation.

I write to you for advice. A friend and myself bought five colonies of bees last spring for \$3.00 apiece, each paying half; also each was to do half of the work, but my friend went back on me. He left his half of the work for me to do, principally because he can not handle bees. Now what share should I have if I do all the work next year? The expenses are equally divided. I have my idea of what per cent I should receive; but he, on the other hand, will neither give nor take for the bees, nor does he want to give me a per cent for doing the work.

Toledo, O.

F. R. PETTYS.

[It is the usual rule, when bees are kept on shares, for one party to furnish all the bees, hives, and equipment, and the other furnish all the labor. At the close of the season both share equally in the

honey crop, and both share in the expense of shipping-cases, honey-cans, etc., necessary to hold the crop. We would, therefore, suggest that a fair solution of your difficulty would be for the other party, inasmuch as he is afraid of the bees, to buy your half of the bees and you do all the work, under the usual form of contract. In case the other party will not agree to this, we would advise you to buy his share, in which case you would take the whole crop.—ED.]

Can Bees be Wintered on Candy Alone?

Can bees be wintered on candy alone? Would it do to lay it on top of the frames? Would the hard glassy kind be better, as it contains less moisture—made without stirring? For wintering purposes solely, what do you think of pouring it into the frames (not combs), and hanging them in the hive? St. Mary's, Ont., Nov. 8. J. H. BURNS.

[Bees can be wintered on candy alone. The usual plan is to place cakes of hard candy on top of the frames, then cover the brood-nest with quilts or other warm packing. There is not much difference in the feeding value between hard glassy candy and that which is opaque as the result of stirring. There is less waste with the hard candy, for the reason that no particles rattle down between the frames as in the case of the other candy.]

Years ago our Mr. A. I. Root wintered a good many colonies successfully by pouring hot candy into empty brood-frames. When cold and hard, these frames were inserted, one on each side of a cluster of bees. The results were very satisfactory. Where there are no combs of sealed stores, the giving of candy is the only way to furnish food during midwinter. Syrup has too much of a tendency to excite the bees at the very time when they should be in their winter sleep.—ED.]

Do Bees have Organs that Correspond to Ears in Other Animals? Stingless Bees.

I have read considerable literature on bee culture, and I have yet to see any thing mentioned about the hearing of bees. Their organs of taste, sight, and feeling are conspicuous enough for all. Do bees have microscopic ears of any kind? If so, where can they be found? It has seemed strange that, if bees possess ears, nobody has said any thing about the matter. Yet the little creatures are very sensitive to vibrations, such as a single tap on the side of a hive at night, which will sometimes stop the buzz of the entire colony, and, for a few seconds at least, they become as "still as a mouse," seemingly listening.

Please advise what you consider the right pitch for a hive—how much lower the front should be than the back.

Have there been any further investigations regarding stingless bees since those of W. K. Morrison in 1906? Were any of the species found desirable for or adaptable to the United States?

Canastota, N. Y., Nov. 7.

C. W. WILSON.

[The question of whether bees hear, or whether they receive impressions in some other way, is a mooted one among scientists. Nothing has been found that corresponds to the ears in ordinary animals, although it has been supposed that the antennae may serve the purpose in some way. We know this: Bees are very sensitive to a jar or any vibration; that loud shouting in a bee-cellar will bring back a response from the bees; but as sound always produces sound-waves in the air, the bees may get the effect of the sound by a concussion on their bodies or their antennae.]

The bottom should slope down toward the front at a pitch of about $\frac{1}{2}$ inch to the foot.

There have been no late reports on stingless bees since those referred to by W. K. Morrison in 1906.—ED.]

Propolis-poisoning; a Possible Explanation for the Cause.

The experience of Mr. C. R. Parker, as related under the caption, "A Case of Propolis-poisoning," in GLEANINGS for Oct. 15, interested me not a little. In the summer of 1891 I began my experience in apiculture in a canyon about 15 miles from here. Ere long I was troubled with an eruption on the hands, which, at first, I attributed to contact with poison oak. At times the fingers were greatly swollen, and no satisfactory treatment could be

found. I soon noticed that, whenever I opened a few hives and daubed my fingers with propolis, there was another attack of the poison. This occurred every year. Having often seen bees collecting nectar from the poison oak I concluded that the cause of the ailment was thus explained. Both honey and propolis seemed to transmit the dreaded poison. In localities free from poison oak I noticed no ill effects. I have never met another apiarist afflicted in a like manner.

Banning, Cal., Oct. 23.

S. C. LORD.

[It is entirely possible for propolis to carry poison from any poisonous tree or plant. Our correspondent is probably right in his surmise of the source of the poison. The following suggests a possible remedy.—ED.]

Propolis-poisoning and a Remedy.

On page 668, Oct. 15, you speak of a case of propolis-poisoning. I, too, have had several attacks of the same thing. I had some old diseased combs that had not been used for seven to ten years, and after cleaning the frames of propolis I have contracted the disease. My hands, wrists, and face would itch and burn the same as C. R. Parker tells about; and after trying doctors and different remedies I found that sweet spirits of niter would kill the poison in two or three applications, and leave the skin in perfect order. Just bathe the parts a few times. It is very cooling, and is the best remedy for poison ivy also.

Tacoma, Wash.

H. W. PALLIES.

Shall we Leave the Honey in the Supers on All Winter?

About what time should the honey in the supers be taken off? I removed all of the honey in them some six or seven weeks ago, and some of the colonies have about filled them up again, while others seem to be a little weak. What would be the results should I leave the honey on these last-named hives for winter feed?

Goodland, Ind., Oct. 31.

M. L. HUMSTON.

[We would take off all honey from the hives in the upper stories or supers. When doing so, be sure there are stores enough in the brood-nest below. There should be not less than 25 lbs. for outdoor wintering, and 15 lbs. for indoor wintering. It would, perhaps, do no harm to leave the honey and the supers on all winter; but we would advise taking it off provided you have enough in the brood-nest. If you have any weak colonies we would advise you to unite them with some stronger stock. For particulars regarding this, see p. 644 of our issue for Oct. 15.—ED.]

Not 2000 Tons of Sugar, but 2000 Tons of Beets.

Mr. Root.—Answering the letter of inquiry from your proof-reader, I will say that what I meant when I said 2000 tons per day was 2000 tons of beets used; but even that is a little more than the average used. The superintendent tells me this morning that the average output of the factory for the sugar campaign (which is from two to four months) is 5000 sacks every 24 hours, or 250 tons per day of 24 hours; the yearly output is from 35 to 40 million pounds.

Colorado has twelve sugar-factories. Several of them have only half the capacity of this one; but you can see that she easily stands first in the production of beet sugar. The sugar content of the beets here is about 16 per cent.

Longmont, Colo., Nov. 4.

M. A. GILL.

Langstroth versus Some Other Frame.

Please tell me which frame Alexander used and which one does Doolittle now use? What frame would you recommend for this locality?

Loudonville, N. Y., Nov. 4. ~~Wm. H.~~ J. A. NORRIS.

[Mr. G. M. Doolittle formerly used the Gallup frame, $11\frac{1}{4} \times 11\frac{1}{4}$ outside measure; but he has since changed to the Langstroth, if we are correct. Mr. E. W. Alexander used a frame slightly deeper and a little shorter than the Langstroth; but he said to the writer once that, if he were to start again, he would adopt the regular standard Langstroth size. Practically all of the large producers in the country are using the Langstroth frame.—ED.]

What to Do when You are Not Sure that a Colony has a Queen; Uniting; Wintering Indoors or Outdoors.

I am a beginner in bee culture, and have had several puzzling experiences, and so I write for advice.

1. One colony which did well early in the season was found in August with no brood except drone brood, and the bees carried the larvæ out as soon as they hatched. This drone brood was in the center of the combs, and in cells previously occupied by worker brood. I began liberal feeding, without any result except that the bees allowed the drones to live. When first discovered, the colony had a number of very large queen-cells, rich in royal jelly, but without any eggs. I never could find the queen. I put the hive over another colony, with newspapers between, and moved it off again in a week, and did that a second time. By so doing I so reduced the colony that only a mere handful remained, and robbers finished them one day. Please tell me the trouble, and what I should have done. Worker bees do not lay in every cell, do they? I tried giving them a frame of young brood and eggs, but no queen-cells were started.

2. Another colony with a young queen was found with several sealed queen-cells about the middle of September, and no other brood, and I could find no queen. I gave them some of that drone brood. They allowed the drones to live. After a week I looked, and the queen-cells seemed to have hatched, but I could not find any queens or drones. I had fed sugar syrup in the mean time. The colony is strong in bees. What shall I do? I have been afraid to unite for fear there might be virgin queens which would kill the queens of another colony.

3. A colony having a very fine prolific three-year-old queen has to-day a sealed queen-cell, sealed worker brood, young larvæ, and eggs; but I can not find the queen. This colony has made no previous attempt to requeen. Please tell me what to do.

4. What is the smallest colony safe for wintering in a cellar?

5. What kind of arrangement or cover is best for bees wintered in a cellar?

6. Would you consider it safe to attempt to winter No. 2 as it is?

7. Should I ascertain for a certainty whether or not each colony has a queen before putting them in the center?

Richland Center, Wis., Oct. 13. SUBSCRIBER.

[1. We should judge that this colony had a fertile worker. The fact that you could find no queen of any sort would lead us to believe that the old one must have died, and that the colony, failing to raise a regular queen in her place, degenerated into one of fertile workers. Of course, the bees would save the drones after you began feeding. We usually recommend giving to a fertile-worker colony a good ripe queen-cell. If they destroy that, give them another. Giving a frame or two of good brood will impart new life and blood to the discouraged survivors; and if you give a ripe queen-cell at the same time, you will usually cure the trouble.

2. This looks as if the colony lost its queen, and the bees began rearing cells from the eggs or young larvæ that were left. After one of the virgins hatched she would immediately or very soon proceed to destroy the other cells. She might have been lost in a mating-trip after killing off all her possible rivals, and left the colony hopelessly queenless. However, sometimes it is not easy to find a virgin five or six days old. If you were to look again you might find a queen; but in late fall she might not lay, or until next spring. In uniting, one will usually have a surplus of queens; and the thing to do is to put some weak colony that has a queen with a strong one that is possibly queenless. If the stronger one has a queen it will be a question of the survival of the fittest between the two queens, for there will be a royal battle ending in the destruction of one or the other. We would, therefore, advise you to unite this colony to another one having a queen. If one of them is queenless, or if both have a queen, the matter will take care of itself in either case. Proceeding on this policy it is not necessary to hunt either queen unless there is a choice between them.

3. This colony is a good deal like the one referred to in No. 2. The old queen possibly failed or died. If the young virgin by this time has not begun to lay, or did not lay this fall, unite her colony with a stronger one that surely has a queen.

4. This depends on localities. In your climate we would not attempt to winter outdoors less than eight frames pretty well covered with bees; and even then it would be better to winter indoors. If you have a dry cellar with a uniform temperature, capable of proper ventilation at times, you could winter four, five, and six frame colonies.

5. The answer to this question depends upon the cellar. In indoor wintering it does not make so much difference what sort of cover is used. Many use just an ordinary quilt; others use the summer cover, which the bees seal down. In the latter case the entrance should be full width at least, and, if possible, it would be better if the hive were raised up at the front so as to leave a space of about two inches by the full width of the hive.

6. We would not attempt to winter No. 2 (nor No. 3, for that matter) as they are. Better unite them with other bees that have a queen.

7. It is wise to see that every colony is supplied with a queen before it goes into winter quarters. As a general thing the queenless colonies are the first to die in winter or in the spring. The chances are far better, in other words, if every colony has a good queen.—ED.]

Location of Bees in a Fruit-orchard; Mortality of Bees Near a Body of Water, etc.

1. Would you advise me to put my 20 colonies of bees in one place together, rather than distribute them over the whole orchard? I am manager of a fruit-orchard.

2. Is it a great disadvantage that my apiary is located near the Zuider Zee (Southern Sea)? The distance between the sea and the hives is about 800 yards from the east side, and 500 yards from the south side; but the ground between the sea and the apiary is covered with fruit-trees, and a kind of rape seed that yields much honey for about three weeks before the main honey-flow.

3. Would you advise me to build a honey-house near my bee-yard?

4. About fixtures, is it advisable to buy a power extracting-outfit for an apiary of forty colonies? Would it pay? P. BALK.

Oosterleek by Hoorn, Netherlands.

[1. It will not make very much difference whether you scatter the colonies over the whole apiary or put them in one spot 6 or 8 feet apart.

2. We do not believe that the proximity of your bees to the sea can have any very serious effect. While it is true that some of them might be lost in flying across the water, yet there are conditions like this all over the United States, and in such localities we do not believe the mortality will amount to so very much.

3. If you need a bee-house we would advise you to put it in the center of your apiary, especially if you expect to do your extracting in it. It should be as near the center as possible in order to save steps.

4. For a forty-colony apiary you would not need any power extractor. Such an outfit is not needed except where there are two or three hundred colonies or more. A two-frame hand-power extractor would handle such a yard very nicely.—ED.]

Propolis Wanted for Varnish.

Can you supply propolis free from beeswax? If so, at what price? I am anxious to make use of it for a special purpose. If you are not able to supply it, will you kindly say where it can be obtained?

I have read somewhere that, in the Middle Ages, the woodware in household use in Northern Italy was usually varnished with propolis; and it was claimed that certain special and unusual virtues were attached to it. If you know where I can obtain any information on this head I should esteem it very much if you would let me know.

Point Loma, Cal.

C. WOODHERD.

[If there were a sufficient demand for propolis we are sure it could be obtained; but we fear, however, it would be too high in price to compete against other natural gums. If there were a sufficient demand for it, and the price warranted, we should soon be able to gather quite a quantity. But we do not believe that any honey-producer would be warranted in saving it, or trying to scrape it from frames and hives, unless he were paid at least \$5.00 per lb.—ED.]

Our Homes

By A. I. Root

Train up a child in the way he should go, and when he is old he will not depart from it.—PROV. 22:6.

Thou shalt teach these words diligently unto thy children, and shalt talk of them when thou sittest in thy house, and when thou walkest by the way, and when thou liest down and when thou risest up.—DEUT. 6:7.

A few days ago I met an old friend—one who started in with bees about the time I did, some forty years ago. He and I have been quite intimate for many years, but I had not seen him for some time. Just a few days ago I met him here in our apiary. By the way, I think I had quite a little to do with his *getting married* years ago. He is quite deaf, and rather backward about getting acquainted; but I urged him, as usual, not only to keep bees, but to have a wife and some children. When I saw this bright little boy he was leading by the hand I put out my hand to him and remarked, "And this is your boy, is it, Mr. D.?"

"Oh, no! he is my *grandchild*."

And this reminded me once more of how the years rush by as we get along in the 70's, and we almost fail to notice it. By the way, when I first became acquainted with Mr. D. he was skeptically inclined, and he and I had some long talks in regard to the matter. Well, I think he has got past the skeptical age, for I have been informed that his good wife is quite a prominent worker in the W. C. T. U. in their locality. Among other things I said:

"I suppose you are still a bee-keeper, Mr. D.?"

"Oh, yes! and I had a splendid crop of honey last season. I shall keep bees as long as I live."

"And are you still reading my Home talks in GLEANINGS?"

"Why, Mr. Root, of late I forget every thing I read so quickly that it does not seem to be of any use for me to try to read much if any thing lately, and on that account I have not had GLEANINGS for some little time."

At the above we both laughed, and I was just wondering how many other people, like my good frank friend D., have been doing the same thing while getting along toward 70. I suppose, if we put it short, he meant that every thing nowadays "goes in one ear and out the other."

Well, my story this morning, or at least a part of it, is to illustrate this very point. A few days ago our general manager, Mr. Calvert, said he was going away for about two weeks to attend the National Council of Congregational Churches in conjunction with the annual meeting of the missionary societies. Well, before he started he said:

"Father, would you like to teach my Sunday-school class during the two Sundays I shall be away?"

I replied at once that I should be very glad to take the class, for I enjoy teaching (especially among people where I am acquainted) better than any thing else, and there the matter ended.

After making the promise I *forgot all about it*; and when the first Sunday came I went and sat down in the Men's Brotherhood class, in the charge of our pastor, as honest and innocent as could be. When the *next* Sunday came, another son-in-law, Mr. L. W. Boyden, came and said, "Father, I shall have to be away to-morrow; and wouldn't you like to take my class of boys? They are very good boys, and well behaved, except Johnnie Smith, who is too wide awake to every thing that is going on to stick to business very much, even during the brief hour of Sunday-school."

I replied as before that I would really enjoy teaching his class; and, so far as Johnnie Smith was concerned, I said he was a particular friend of mine, and I was sure I could keep him within bounds. And then, as before, I *entirely forgot* all about it.

After the preaching service I took Mrs. Root down home in my electric automobile, and was just starting back to the Brotherhood meeting as usual, entirely forgetting that I had promised to teach *two* different classes on that bright Sunday. Just as I was starting back, however, Huber called me across the way and said something as follows:

"Father, Johnnie Smith was running your electric automobile all over town during preaching service."

I stopped; in fact, I was almost stunned to think that any boy should take my automobile without leave, and especially if he ran it around town during preaching service. And then I began to say to myself, "Johnnie Smith! Johnnie Smith! What was it I heard about Johnnie Smith not long ago?" And then I said to myself, "Why, now I *do* recall that I was to teach Mr. Boyden's class;" and, looking at my watch, I said, "Why, that class of boys, *Johnnie Smith* among them, are even now in their class waiting for their teacher."

I can not remember that my little prayer, "Lord, help," welled up within my heart, but it *ought* to have done so. I hurried back, took the class, and had a very pleasant time indeed with the boys. Johnnie Smith was especially attentive, and showed that he understood his lesson, and he was really a *model* Sunday-school boy. In closing the lesson I said something like this:

"Boys, is it possible that any one of you, with your bright and intelligent faces and neat tidy appearance, will ever 'go to the bad'? Will any one of *you* ever be led so far astray as to commit *crime*, get into *prison*, and, may be, end in *suicide*? God forbid."

They all looked me full in the face when I uttered these words, and I felt in my heart the blessings of the Holy Spirit as I bade them good by. Let me digress a little right here.

When I first heard the boys had been using my automobile without permission I said they ought to be *put in jail* if nothing else would mend matters in our town. But teaching that class, especially the closing words, had softened my heart. I managed to have Johnnie Smith wait a little after the others had gone, without anybody noticing it; and then the Holy Spirit began teaching *me* some lessons. It said something like this: First, Johnnie Smith presumed, somewhat, on being so well acquainted with me that I would not make any serious fuss, even if I found it out. Then it added that automobiles are now a craze with almost everybody. The boys especially are full of wonder and curiosity in regard to these wonderful machines. This was evident from the fact that Johnnie had managed to learn in *some way* just how to move the levers and guide it; and by the time I was ready to question him and remind him that it was not only a violation of law, but dangerous business in many ways, my heart was softened toward him and all other growing boys. I soon found, however, that I still needed my little prayer, "Lord, help," for Johnnie excused himself by saying *he* did not run it. It was the other boy, Jimmie Brown, who was in the machine with him. Remembering that Jimmie Brown was working nights and mornings in our factory, and was often around the automobiles, I readily accepted this explanation, especially as he had frankly admitted that he was very much in the wrong in getting into the automobile at all.

The next day I met Jimmie Brown, and gently paved the way, but was astounded when he told me that Johnnie Smith did *all* the running. He did not know how, and could not have run it if he had tried. I thought at this crisis that I had better give notice to the parents of *both* the boys and let *them* get at the truth of the matter.

Now, while I admit it *is* a great temptation for boys to meddle with automobiles I am sure it is something that ought to be attended to. During almost every church service we hear horns tooted and the bells ringing on the various automobiles that bring people to church. I suppose the boys do not realize the mischief they may do by moving switches and meddling with the complicated and delicate if not dangerous machinery connected with the automobile. I hope the parents whose eyes meet these words will excuse me if I suggest to them that they are making a serious mistake by bringing up even young boys so that they will not have proper respect for the property of others, especially if such property is in the form of an automobile. Some boys are wonderfully inquisitive, I am well aware. And this spirit of wanting to know about things is a good and proper one. Do not scold such a boy and nag him, but insist, *line upon line, and precept upon precept*, that he *must* refrain from meddling with the property of others. Excuse me for saying it; but *our* own children, who have been

out in the world, have never, one of them, taken any such liberty with property belonging to others. "Thou shalt teach these words diligently unto thy children," etc.

The things I have mentioned are, perhaps, trifling in themselves; but I am told that this meddling with automobiles is a serious matter all over our land. Just after the event I have mentioned, one of my grandsons, who is quite an expert with automobiles, took a machine that cost over a thousand dollars, to Oberlin, where he is attending school. He kept it over night in the barn of a relative. Some time in the night some young men (we do not know whether they were students or not) took the machine out of the barn (without the knowledge or permission of the owner), ran it forty miles by the speedometer, and returned it to the neighborhood of the barn so much disabled that it cost between forty and fifty dollars to have it repaired. When Howard placed his machine in the barn the night before, he was aware that something was wrong with it, and planned to get up by daylight to remedy the trouble. In this condition it was abstracted and run forty miles. Our attorney informs me that a recent law imposes a fine of \$200 or imprisonment, or both, for taking an automobile without the permission of the owner. Now, the above is bad enough; but investigation proves that automobiles have been taken without leave something like a dozen times during the past few months. On one occasion a physician, after having a hurried call to see a patient, found his machine missing, without any knowledge of where it went nor who took it. I hardly need remind our readers that Oberlin, Ohio, has for many years had a reputation for being a model college town. This reputation not only extends throughout Ohio, but over the greater part of the United States. In view of this I do think the college as well as the town authorities should take the matter in hand and find out whether this work is students' pranks or something belonging to somebody who has no connection with that justly celebrated school. I have advised offering a reward, and setting detectives at work; but I am informed that nothing is being done, because the boys brought the machine back—at least into the *neighborhood* of where they found it. Now let me digress again a little.

Down in our Florida home, before I had my little automobile there I fixed up a nice little keg so that my neighbors could reach into it and deposit mail or get letters when going to and from the postoffice. In just a few days my barrel was broken down. Then I nailed it up stronger with clinch nails; but it was broken down again and again. I said to Mr. Rood that there must be some very bad boys in that neighborhood who kept smashing my mail-box. He did not agree with me, however. He said he could not think there were any boys in that vicinity who had any spite against *me* (a new comer), or would do such a thing. I told

him I had heard them throwing stones at the mail-box after I was in bed nights. Once I got up and went out, but saw nothing but some innocent, harmless-looking cows chewing their cuds by the roadside. Finally, when I was getting into a bad frame of mind about it, I went out one day and saw a cow *scratching her back* under my mail-box. Right back of her were a dozen other cows waiting for an opportunity to scratch *their* backs. The faithful bovines evidently imagined that I had rigged up this structure especially for their benefit. I know *they* felt thankful to me for the pains I had taken, even if I did *not* sympathize with them. I felt so guilty I told the story in Sunday-school in order that I might publicly beg pardon of the boys for my uncharitable thought toward them. I think I have before mentioned that, on the street that runs past our house, with dwellings on both sides for about a mile, there is not a man or boy who uses tobacco in any way.

Now, if friend Graves will excuse me again for writing up Florida with "too much of a rosy tint," I shall have to close this Home paper with something that is not quite so complimentary to the boys. After I had begged their pardon I felt so kindly toward them that I frequently invited them to get in and ride when I carried my eggs to market every evening. Pretty soon I had boys piling on behind until my little automobile could hardly move the load. When I began remonstrating they got a fashion of hopping off till my back was turned, and then piling on again; and the more I remonstrated the worse it became; and the more I scolded, the more fun it was for them. Then I had to appeal to the marshal; but, notwithstanding this appeal, one night when we had a temperance meeting in the Methodist church my automobile was taken by a crowd of boys and pushed over into the park, where I had some trouble in finding it, especially as they opened the lamps and put out the lights. This act was a little more flagrant, for, fearing something of the kind, I had placed my machine right close to the door of the church in the full blaze of the light that shone through it from the doorway. Now, friends, who is to blame for taking such liberties? I myself was to blame for being more familiar with the boys than was wise under the circumstances.*

When I was in my teens I once taught school. The pupils were diligent in their studies, and I enjoyed their work; but I made a mistake in not preserving my proper dignity; and before the school was out I realized in a way that I shall remember, perhaps, all my life, the importance of maintaining a proper degree of dignity and insisting on the amount of respect due every teacher. Toward the close of the term some of the oldest and most presuming of the pupils thought it would be a nice trick to put me outdoors as they had some of my

predecessors; but they did not do it, and I was engaged to teach the school a month longer than the usual term, because I *finally* succeeded in making the hoodlum element in that school *toe the mark*.

Now, I hope, dear friends, this Home paper may be a reminder of the importance of following the sense of both of the texts at the head of this talk; and especially of the importance of starting children right, early in life. God knows there are accidents and deaths enough already from the improper use of automobiles, one of God's most precious gifts. Before we start in with the flying-machines I feel that it is of the utmost importance that all who are to handle them should have careful training; and I wish that the word "careful" might also include *prayerful* training.

THE RICH GROWING RICHER, AND—

Mr. A. I. Root:—Excuse me for saying your criticism of the Columbus trouble seems to me rather severe. I hope you do not condemn the strikers as a whole. Conductors and motormen are not much given to intoxicating drink; still, their condition is most unfortunate. They make an attempt to improve their conditions by asking for a better reward for their labor. The attempt was an entire failure, and now the condition of themselves and their families is worse than ever. How such matters can be peaceably arranged is a question, so far as I know, that is yet unanswered.

Years ago an employee giving good and faithful service was voluntarily rewarded, but not so in these days. In my twenty years experience in factories and shops of Cincinnati I have raised my wages from five to twenty dollars a week. Every cent was got, not by asking, but by demanding; and I am making the effort of my life by getting out in the country, closer to old Mother Nature, and cutting loose from the whole wage system entirely. Those not in the struggles of the wage earner and striker have reasons to thank the Lord, for the question is unsettled and uncertain. One thing we are fully aware of is that the rich are getting richer and more powerful. Every thing seems to be in their favor, and—why continue?

Cincinnati, O., Oct. 2.

A. W. MARTIN.

My good friend, we are glad to hear something on the side of the wage-earners on this question, and I am rather glad you did not finish your last sentence. Perhaps it is true that the rich *are* growing richer; but let us call a halt right here before assuming that the poor are growing poorer. And recollect that here in our United States of America most of our rich men started as wage-earners, and many of them from very humble positions; and if you look about you I think you will admit that there are hundreds and thousands of wage-earners who are climbing up all the while into being men of capital; and not only that, they are becoming men of influence. The solution of all our troubles is, without question, a more thorough spreading of the doctrines of our Lord and Master; "for there is no other name given among men whereby we must be saved."

Just a word about not getting a raise unless we demand it. As you may know, I have had years of experience in this matter. Pleasant relations between employer and employees will make it easy to arrange for a raise in wages without the use of that hard word "demand." I am not *now* so

*The boys who did this were not of the class that live on our particular street, and who are always on hand at Sunday-school and Endeavor meetings.

well acquainted with our helpers, as I used to be when bearing the burdens of our business, but then it was a common thing for a boy to say, "Mr. Root, don't you think I can earn more than ten cents an hour?" In fact, I used to be glad to hear a boy address me in this way. I felt like shaking hands with him and talking the matter up in a friendly way. I would often say, "Let us see, John, are you always on hand when the whistle blows?"

A reference to the time-clerk was very likely to reveal the fact that John was often tardy when he was needed urgently; and in a dozen different ways the employer can suggest to his help things that would enable him to get a raise; and where such matters can be arranged in a friendly way, the employer standing by the side of his helpers, and treating them as a friend, a neighbor, and an equal, such things would almost make a heaven here on earth. And that is exactly the way the dear Savior tried to teach us to live together and to work together. I am glad to know, dear brother, that you have been emancipated, and have gone out into the country. Now I am longing to have you say, as a dear brother says in another column, that you have also "got over on God's side."

Temperance

VOTING FOR PROHIBITION LAWS, AND EXPECTING WHISKY MEN TO ENFORCE SUCH LAWS.

Mr. A. I. Root:—Don't you think you would be more "helpful and interesting" if you printed less bosh, such as voting for a prohibition law and at the same time for whisky men and parties to enforce it, as they did in Newark, in *your* State, and give us occasionally some "straight goods," like Mr. Chafin's speech in the *National Prohibitionist* for Oct. 6? How many *real* enemies of the liquor traffic hold office in Washington, D. C., New York, and Ohio?

Newport, N. Y., Oct. 10.

A. L. HINES.

My good friend, I do not know but you are hitting the nail on the head, or coming pretty near it. It is a lamentable fact that, after the Anti-saloon League or any or all temperance organizations have secured some good and righteous laws, it happens many times that the enforcement of such laws is in the hands of men not in sympathy with them. It is very unfortunate, I confess; but I want to assure you that the Anti-saloon League is doing every thing in its power to get better men into office. We are ready to vote for them and work for them, no matter where they are found; and if the temperance forces could be united I think there is no question but that we could readily put good honest temperance men into office. I repeat, it is *exceedingly* unfortunate that all temperance voters can not unite in voting for good men nominated by the Prohibition party, and it is also exceedingly unfortunate that it seems impossible to get Prohibitionists to unite for the good

men that the Anti-saloon League would like to put into office. And there is still another trouble: We have many times succeeded in putting men into office that we *thought* would work for temperance; but we found out many times, after it was too late, that the powers of darkness were too great against us, for they turned out *wet*. It seems to me that we ought to be careful, each and all of us, to work more for men who love God and his word, and in that way depend on *him* to give us the victory as he did in olden times. I fear we are forgetting that one man, with God on his side, is often of more avail than a whole regiment, to win in a moral conflict like this. See the following from Wilbur F. Crafts:

"WET" MAYORS FOR "DRY" CITIES.

The Superintendent of the Reform Bureau, in the spring of 1910, spoke in 21 "dry" towns, and 20 of them had elected "wet" mayors. They had decreed that wolves should leave the flock and set a pack of wolves to execute the order. This political idleness is partly due to allowing national politics in city elections, dividing on the tariff when toughs should be the issue. When Riverside, California, for once returned to its "wallowing in the mire" of license, a David Harum of the town said: "Four G's did it; the gamblers, the greasers, the galoots, and *some of the good*." These "good for nothings" were led into such company by the device of national politics. Moralists may thank God for insolvency, even though it is mostly a financial revolt, because it is breaking party chains. Law enforcement should be the supreme local issue.—*20th Century Quarterly*, Sept. 21, 1910.

WHAT SHALL IT BE—MORE STATE PRISONS, AND BIGGER ONES, OR FEWER SALOONS?

From the Springfield (Mass.) *Republican* we quote the following:

With three State prisons New York is planning for a fourth, as 4320 convicts occupy 3600 cells, with 621 out on parole. *The increase in the prison population is rapid, for it is now 96 1/4 greater than it was two years ago.* And this increase in the number of prisoners is felt in other States also.

If York State were only a sample of the rest of the United States, it would be a terribly sad thing indeed. But I happen to know that less, perhaps, is being done in New York in the way of prohibition and local option than in almost any other State in the Union. Pennsylvania may be an exception. See the wet-and-dry maps that are being exhibited now in our temperance periodicals. Ohio has been talking about a new and larger penitentiary, out in the country. If we succeed in getting State-wide prohibition for the whole State of Ohio (and with God's help we are going to do it) we shall find our present penitentiary large enough. I do not mean to say it is *good* enough; but with the reduced number of convicts, there will be an excellent opportunity for improving sanitary conditions. Once more, shall the United States continue building more and larger penitentiaries, and, to be in keeping with such a course, also continue building new, *larger*, and *finer* saloons to keep the penitentiaries, insane-asylums, and infirmaries going flu blast?